HOSPITAL ABSTRACTS

A MONTHLY SURVEY OF WORLD LITERATURE PREPARED BY THE DEPARTMENT OF HEALTH AND SOCIAL SECURITY

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1975

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HOSPITAL ABSTRACTS

Vol. 15 March, 1975 No. 3

HOSPITALS IN GENERAL

310. BLEGEN, H. M. Helsetjenesten—et monopol utenfor forbrukerens kontroll? **[The health service—a monopoly outside the consumer's control?]** *Norsk Sykehustidende*, Oslo, 1974, Nov., vol. 47, no. 11, pp. 229-232.

The American sociologist Etzioni classifies organizations according to degree of separation between consumption and control. The consumer has least possible control over the public monopolies, followed by the service institutions such as the schools, hospitals and other social institutions. There is also separation between consumption and payment: one cannot refuse to pay tax, and one cannot sue for refunds or deny payment if the service is unsatisfactory. The medical profession is a typical example of an absolute public monopoly. The consumer does not know what is good for him as do the servants of the monopoly; the patient is a passive receiver of the service, on which he is totally dependent. This has had the advantage of eliminating income-dependent differences, but it permits the organization to extend its control on illegitimate grounds, e.g. by enforcing the wearing of uniform clothing in old folks' homes. The solution is: (i) improved communication between 'the ordinary consumer' and the health authorities; (ii) a relaxation of the rigid institutionalized staff/patient relationship; (iii) increased consumer control over financial and administrative decision-making; and (iv) extension of patient-oriented preventive medicine, e.g. in factories. The public is unable to exert financial pressure on the system, so it must exert pressure through its politicians.

HOSPITALS IN GREAT BRITAIN

311. WADDY, F. F. **A history of Northampton General Hospital, 1743-1948.** Northampton, Northampton General Hospital, 1974, xii, 192pp. £3.00.

This volume presents a factual account of the history of this hospital during the 205 years it was a voluntary institution—from its founding in 1743 as the Northampton Infirmary to 1948 when it became part of the National Health Service. Eleven photographs are included.

HOSPITALS IN OTHER COUNTRIES

See also Abstract No. 352

312. HALVORSEN, T. Sykehusutbygging m.v. i et regionalisert helsevesen. **[Hospital development in a regionalized health service].** *Norsk Sykehustidende*, Oslo, 1974, Nov., vol. 47, no. 11, pp. 215-222.

Since 1970 it has been the responsibility of individual Norwegian counties to plan,

erect and run such health institutions as the law requires, put forward plans for fulfilling this responsibility, and have them passed by the State. The aim is to stimulate the extension of the hospital system. The health system aims to give each patient the most efficient treatment possible at the lowest possible level. It is divided into: (i) a district health service: convalescent homes, cottage hospitals and maternity homes; (ii) county health services, running the first and second class hospitals; (iii) the five regions, each responsible for regional hospitals (comprising about 10 per cent of all somatic hospital beds) plus certain special facilities; and (iv) a national health service responsible for providing facilities organized on a national basis, e.g. teaching, research and development. Specialist advisory groups are to be set up to plan developments in the various specialties. A planning and authorization system has been proposed, to prepare: (i) one-year plans, for modifications in the coming year; (ii) four-year plan to supplement the government's long-term plans; and (iii) perspective reviews. The final organization of the future system is to be the topic of debates and seminars.

313. BARCLAY, W. A. **Hospitals and community health—a changing role.** *Hospital & Health Care Administration*, Prahran, Victoria, 1974, Oct., vol. 4, no. 10, pp. 5-9.

The costs of health care are rising rapidly and demand continually exceeds supply, but it is not enough merely to inject more money into the existing system. More important is a reappraisal of the fundamental structure of contemporary health care. This reappraisal can be based on three elements: quantity, quality and comprehensiveness of services provided. Improvements are only possible if the relationship between hospitals and community health services is modified and strengthened. The author reviews various structural models for this relationship, with the help of diagrams, and favours a structure in which both the hospital services and community health services report through management committees to a community health services board. This structure would keep domination of the health services by hospitals to a minimum and would correct the existing bias towards curative medicine at the expense of preventive medicine.

PLANNING, DESIGN AND CONSTRUCTION

See also Abstract Nos. 366, 442

314. NEW SOUTH WALES UNIVERSITY. SCHOOL OF HEALTH ADMINISTRATION. **Health service building planning seminar, 1973: summary of proceedings.** (Australian Studies in Health Service Administration, Nos. 21 and 22) Kensington, N.S.W., University of New South Wales School of Health Administration, 1973, 219pp. $4.00.

The purposes of this seminar were to: (i) investigate current problems in planning and using health service buildings; (ii) suggest ways of improving the capability of planning teams; (iii) explore ways of increasing the efficiency of planning systems; and (iv) bring together people of the main professional and consumer groups involved in planning, design and use of health service facilities in Australia, to share their experiences and ideas. The papers were directed at general problem areas, such as planning methods and procedures, information and documentation systems, education and research for planning, project management and planning team roles, and rationalization and standardization.

DETERMINING SIZE OF HOSPITAL AND BED NEEDS

315. FOKKENS, O., AERT, J. H. van and BOUMAN, P. C. Ziekenhuisplanning en medische registratie. **[The use of patient data in hospital planning.]** *Tijdschrift voor Sociale Geneeskunde*, Bussum, 1974, Nov. 22, vol. 52, no. 23, pp. 847-852; summary in English, p. 852.

A method is described for the use of patient data in hospital planning. The four main stages are as follows: norms are established for the ratio of beds to population for the different age groups; the number of beds required for the population of a clearly defined area is calculated in accordance with these norms; the actual bed use, and its distribution among the hospitals, is determined for the same area and compared with expected use in accordance with the norms; and the number of beds needed now and in the future, taking into account the bed occupancy rate and the expected increase or decrease in population, is calculated and compared with the number of available beds. The procedure for each stage is described in detail: the method may be used for hospital beds as a whole or for individual specialties.

SELECTION OF SITE

See Abstract No. 416

BUILDING: TENDERING, ETC.

See also Abstract No. 320

316. JOHNSON, K. W. **Management contracting in relation to hospital engineering and construction.** *Hospital Engineering*, Stevenage, 1974, Dec., vol. 28, pp. 9-10.

The principle behind management contracting is that the contractor can make a more positive contribution to projects that are more complex than average, by his being appointed at an early stage. The management contractor is then able to contribute through the design and planning to ensure continuity from design through to construction. The management contract aims to do this by contributing technically and logistically to the success of all the activities involved in producing a building. It establishes and consolidates relationships. It treats all of the subcontractors on equal terms and brings about a properly balanced team, which is essential to the successful fulfilment of any design into a completed project.

317. PEARCE, P. T. **The use of design-and-construct contracts.** *Hospital Engineering*, Stevenage, 1974, Dec., vol. 28, pp. 3-8.

Contracts in which a contractor both designs and constructs a project have been established in civil engineering for many years but it is only recently that this contractual arrangement has become common in the building industry. This paper discusses how when and in what manner contractors are appointed. There have been two main problems in introducing design-and-construct contracts to the public sector: (i) well-

established procedures for appointing consultants and for placing contracts; and (ii) speed in obtaining committee decisions. But some public sector projects have been undertaken including a hospital laundry. Also discussed are the development of the art of design-and-construct, the client's brief, the design-and-construct team, and the limitations of design-and-construct contracts.

CONSTRUCTION METHODS AND BUILDING MATERIALS

See Abstract No. 319

HOSPITAL DESIGN

See also Abstract Nos. 314, 321

318. BORUP, A. Eksisterende sykehusbygningers anvendlighet—nybygg eller opprusting av gamle sykehusbygninger? **[Usefulness of existing hospital buildings—new construction or re-equipment of old hospital buildings?]** *Norsk Sykehustidende*, Oslo, 1974, Oct., vol. 47, no. 10, pp. 204-206.

A hospital building may become functionally out of date as a result of lack of foresight over the years. No new building should therefore be undertaken without a long-term plan as well as a short-term plan. After analysis has established the need for the building, space must be reserved for future extensions, car parks, recreational areas and screening against noise and odours; the future road communications must be clarified. If it is decided that accommodation is required, the time has come to assess the applicability of the existing buildings—siting, modernity, economics, possibility of extension, etc. Service facilities (laundries, kitchens, etc.) must be assessed on strict financial grounds, whilst aesthetic and environmental criteria are applied in the assessment of treatment and nursing accommodation. The consultant architect requires high qualifications, experience, imagination, intuition, sensitivity and patience, and must be backed up by modern computer techniques. Hasty decisions prevent creative thinking; but on the whole the savings gained by abandoning old buildings and starting from scratch will pay in more efficient, happier and higher quality work within a very few years.

319. GRIMSGAARD, Ø. H. Byggesystemer for sykehus og andre helseinstitusjoner i kvalitetsmessig og økonomisk perspektiv. **[Qualitative and economic aspects of building systems for hospitals and other health establishments.]** *Sykehuset*, Oslo, 1974, vol. 37, no. 7, pp. 400-413; discussion pp. 413-420.

Hospital buildings must be kept up to date without too great an expenditure. It must be possible to move internal walls and to equip any room with technical equipment; the latter is very difficult, if the work of the hospital is to continue uninterrupted. A 10 per cent excess on the capital budget for flexibility pays in the long run. It is also worth investing in systems that work economically. British experience with industrialization and the 'best buy' hospitals is quoted at length. Many plans are included. Among points made in the discussion are: as the health service lacks staff not money, planners

should get away from cost limits and economize on running costs; McMaster Health Centre in Canada was built of prefabricated elements for $70 million, but would have cost $93 million if conventional methods had been used; computers can help to reduce planning time; and methods must be found to speed plans through committee stages.

320. HENDRIKSE, A. E. Problematiek bij voorbereiding ziekenhuisbouw. **[Problems of the hospital building process.]** *Bouw*, Rotterdam, 1974, Feb. 16, vol. 29, no. 7, pp. 175-179.

The author sets out the problems involved in the planning and design of a new hospital and describes the various phases from the initial decision to build or rebuild. Those involved at each stage, and their functions and responsibilities, are listed. The stages covered are the following: the decision to build or rebuild; determining the scope of the new building; drawing up the programme of requirements; compiling the structural plan; and the sketch plan.

DESIGN OF INDIVIDUAL GENERAL HOSPITALS

321. HARRELL, G. T. **Planning medical center facilities for education, research, and public service.** University Park, Pa. & London, Pennsylvania State University Press, 1974, [vii], 188pp. £5.50.

This book, written from the point of view of a medical educator, reviews the experience of one new medical school, the Milton S. Hershey Medical Center, Hersey, Pa., with a sampling of the unique features of others. It covers the historical perspective, educational philosophy, site, medical sciences building, teaching hospital, satellite clinics, student housing, and planning and scheduling. The volume includes numerous photographs and plans, including plans of each floor of the hospital and the basic sciences and clinical sciences wings.

322. GRÖNWALL, A. and others. Akademiskä sjukhuset i Uppsala. **[Teaching hospital in Uppsala].** *Sjukhuset*, Göteborg, 1974, vol. 51, no. 10, pp. 527-593,

This new hospital [architects: B. J. R. Arkitektkontor] acts as a central county hospital for a population of 220,000 and a regional hospital for 1,260,000. It is being built in four stages, three of which have been completed. It will eventually have 1,445 beds. All buildings are of prefabricated concrete elements with 12m. cassette cross-beams. Windows are double with heat-reflecting surfaces. The GEAZENT 110Z system provides fully automatic control over engineering services, details of which are given. Three plans, 17 photographs and four tables are included.

EXTENSIONS AND RECONSTRUCTIONS

323. TORNAR, R. Erweiterungsbau auf der Stolzalpe. **[Extension of the Stolzalpe.]** *Österreichische Krankenhaus-Zeitung*, Wien, 1974, Nov., vol. 15, no. 11, pp. 579-581.

Extensions to the Stolzalpe Special Hospital (Styria) comprise a 7.50m. by 14m.

indoor swimming pool, a hexagonal gymnasium (diameter 12.5m., area 155 sq.m.) and the conversion of the third floor of the children's block. The latter, originally housing staff quarters, now has a 33-bedded infants' ward (five rooms with from four to nine beds each) and a 22-bedded private ward (six patients' rooms with up to six beds each). In addition to the usual ancillary rooms there is also a school room which is used as a patients' room during holiday periods.

DESIGN OF SPECIAL DEPARTMENTS

See also Abstract Nos. 345 (Training schools), 424 (Operating suites)

324. LABRYGA, F. Planung des Verpflegungsbereichs im Krankenhaus. **[Planning the food service area in the hospital.]** *Krankenhaus*, Stuttgart, 1974, Dec., vol. 66, no. 12, pp. 491-498.

The principal systems of food preparation are described in relation to their effect on the planning and design of kitchens and food distribution areas. From the earliest stage multidisciplinary teams representing everyone concerned with food service should be involved in the planning process and they should be fully briefed on requirements. A survey of food service systems in 16 recently built or planned hospitals—the results of which are set out in tabular form—shows that most prepare their own food, most use an automated transport system, and that (according to the system used) final preparation can take place in the main kitchen, in distribution kitchens, or on the wards. Plans should be flexible so that they can be easily adapted to future technological advances.

325. **Kitchen design at the new West Suffolk Hospital.** *Hospital Equipment & Supplies*, London, 1974, Nov., vol. 20, no. 11, p. 29.

The kitchen at the new West Suffolk Hospital [see *Hospital Abstracts*, Vol. 14, Abstract 1073] was planned for the extensive use of convenience foods to achieve economy in design and running costs by reducing areas and numbers of staff who would be employed on food preparation. Sited on the first floor, it is easily accessible from all ward areas and is linked by a servery to the staff dining-room. The main kitchen has three areas—preparation, cooking and service. There is a separate dish-washing area equipped with a Hobart dishwasher. There are four photographs.

326. Ombyggnad av kök och matsalar. Öppet för servering hela tiden. **[Reconstruction of the kitchen and dining-rooms. Open for service full-time.]** *KS-nytt*, Stockholm, 1974, vol. 13, no. 4, pp. 13-15.

The kitchens at the Caroline Hospital are run-down and noisy, so plans have been approved for their reconstruction over a two-year period at a cost of s.kr. 12.9 million (£1.3 million). Of this sum, s.kr. 2½ million (£250,00) is budgeted for the two dining-rooms. A lift is to be installed for handicapped patients, to supplement the two stairways. There are to be two serving positions: one self-service and one for food in portions, providing all dishes except tea and coffee. Besides vending machines for these drinks and minerals, machines will also be installed to provide whole lunch-meals

for day staff. The coffee-room will have a smokers' and a non-smokers' portion, with ventilation providing the separation rather than walls. Part of the eastern dining-room can be screened off as a 100-seat party-room, and there is an 18-seat VIP dining-room. After reconstruction there will be 600 seats for the expected 2,900 lunch guests a day. The paper is illustrated with a ground plan and an interior artist's impression.

327. Das Nachbehandlungszentrum der SUVA in Bellikon. **[The post-treatment centre of the Swiss Accident Insurance Institute (SUVA), Bellikon.]** *Hospitalis*, Zürich, 1974, Dec., vol. 44, no. 12, pp. 787-794, 797-798, 801-802, 805.

The Swiss Accident Insurance Institute, which is responsible for obligatory accident insurance in Switzerland, opened in 1974 its new treatment centre at Bellikon, Aargau (architect: H. Buff, Winterthur). It is primarily concerned with the rehabilitation of patients with injuries affecting the locomotor system and the brain. The main complex consists of a podium above which rise the two rectangular ward blocks with a total of 252 beds in 98 one- to four-bedded patients' rooms. In addition to comprehensive provision for physiotherapy, remedial gymnastics, sports, swimming (there is an indoor pool 16.67m. by 10m.) and ergotherapy there are industrial advisers, social workers and psychologists to help patients return to normal life and work. The centre is run jointly by a medical director and an administrator who are of equal status.

DESIGN OF SPECIAL HOSPITALS OR UNITS

See also Abstract No. 323 (Children)

328. MARKOWITZ, R. **Adventures in a pediatric unit.** *Hospitals*, Chicago, 1974, Nov. 1, vol. 48, no. 21, pp. 63-65.

The new 30-bedded paediatric unit at Brooklyn Hospital was adapted from a 40-year old adult medical/surgical ward. The renovation was comparatively inexpensive ($12,000 per bed) and as government support was not forthcoming over $335,000 was raised voluntarily. A prominant feature of the old floor was a 180-foot long corridor. This has been made into a 'play street' along which are mounted a number of play devices and abstract figures. The former patients' lounge has been made into play areas divided by mobile screens shaped like a city skyline or like a row of trees. Specially designed trolleys serve as tables, wagons, seats of toy storage boxes. The 10 patients' rooms are decorated in bright colours; they are either private or semi-private and some have accommodation for parents. The unit also includes a four-bedded intensive care unit, four 'isolettes' and a nursery. All rooms have air-conditioning, television and telephone. A surface-mounted terminal strip conveys the mechanical services of oxygen, compressed air and suction and also contains night and reading lights, earphones, a nurse-call button and electrical outlets. Four coloured photographs illustrate the 'play street'.

329. HEUVEL, W. J. A. van den. Sociale en ruimtelijke omgeving van de verpleegtehuispatiënt. **[Social and spatial environment of the nursing home patient.]** *Bouw*, Rotterdam, 1974, Feb. 2, vol. 29, no. 5, pp. 119-121.

Nursing homes in the Netherlands are intended for patients who do not need specialist

medical treatment but are not able to get necessary care and nursing in their own homes. Eighty-five per cent of these patients are over 65 and about 40 per cent stay for more than two years. The special needs of these patients must be reflected in the design of the homes—more attention should be paid to the patient's comfort and social conditions and less to purely medical and technical considerations. Some of the factors to be considered are the following: colour schemes should be varied and not 'institutional'; there should be several small rooms for day-rooms, dining-rooms and recreation rather than one or two large ones; long corridors should be avoided; nursing homes should be sited in busy areas, where patients can see what is going on, rather than outside towns or on their fringes; and patients should have as much privacy as possible. It is very important that staff and patients have good rapport and that the former should also have privacy.

330. WIPF, M. Das Pflegeheim des Betagtenzentrums Eichhof, Luzern. **[The nursing home at Eichhof old people's centre, Lucerne.]** *Veska*, Aarau, 1974, Nov., vol. 38, no. 11, pp. 611-621.

The Eichhof Centre for the Elderly, Lucerne, comprises three types of accommodation: (i) one- and two-room flats for those fit enough to look after themselves entirely (130 beds); (ii) a home for those not able to care for themselves (141 beds); and (iii) a nursing home for bedfast patients needing medical treatment (185 beds). The nursing home has five ward units with normally two linked wards per floor: a typical ward has three single rooms (for disturbed or seriously ill patients), six two-bedded and three four-bedded rooms. There is also an underground civil defence emergency hospital with space for 517 beds on two floors. The paper is illustrated with a site plan, an elevation, a plan of each floor of the nursing home and two photographs.

331. NICOLAÏ, R. Richtgetallen ter budgettering van het bouwvolume. **[Standards for determining space requirements.]** *Ziekenhuis*, Utrecht, 1974, Dec. 4, vol. 4, no. 23, pp. 604-608.

The cost of a building is determined by the area of the building and construction costs. Since the former is a very important component the [Netherlands] National Hospital Institute has been concerning itself with laying down recommended space standards for hospitals and long-stay nursing homes. This paper deals with nursing homes and reproduces a table which sets out space needs for a nursing home with between 150 and 240 beds: the figures are given for wards, patient rooms and other departments in terms of sq.m. per bed. Where applicable separate figures are given for homes for the physically ill and homes for mentally disturbed elderly patients.

332. Verpleeghuis te Ter Apel. **[Nursing home, Ter Apel.]** *Bouw*, Rotterdam, 1974, Feb. 16, vol. 29, no. 7, pp. 163-165.

The nursing home at Ter Apel, Netherlands, (architects; Haykans & Jansma, Groningen) originally for the care and rehabilitation of the physically handicapped, has since the beginning of 1973 been used for mentally confused elderly patients. The main building has pavilion wings with four 25-bedded wards (four-bedded and single patient rooms, and day- and dining-rooms for smokers and non-smokers) radiating from a central block housing treatment departments, training school, recreation

rooms, kitchen and administration. There are also staff quarters and housing for senior staff. The paper is illustrated with a site plan, floor plan and 10 photographs.

333. **Audiology facility completed.** *Hospital Equipment & Supplies*, London, 1974, Nov., vol. 20, no. 11, p. 59.

An installation of five audiometric chambers with its own silenced ventilation system and plant room has been completed at the Royal National Throat, Nose and Ear Hospital, London. Conventional masonry walls are used to divide the area into five cells, each of which has a 100mm. thick acoustic flush door. Within each cell is a 10 feet by nine feet three inches by six feet nine inches standard module which forms an inner chamber separated from the main structure by an air space and isolated from the floor by four spring mounts, one under each corner. Two photographs of the installation are included.

334. TYNE, M. D. **Concepts for improved nursery design.** *Hospitals*, Chicago, 1974, Nov. 1, vol. 48, no. 21, pp. 66-68.

Many traditional ideas relating to the design of nurseries are being challenged and there is a tendency towards the concept of progressive patient care in nurseries. Ideally the nursery suite should be an open area with one corridor fronting on all nurseries for general traffic and a second along the opposite ends linking all nursery suite components and restricted to authorized staff. Ancillary service rooms can be located on the other side of the restricted corridor. A plan illustrates this. The space required varies according to the level of care provided. Full-term nurseries need 25 sq. feet per infant, intermediate care units 40 sq. feet and neonatal intensive care units (NICUs) 60 or more sq. feet, exclusive of space for circulation and support services. The need for mechanical services also increases with the degree of care. Colour is important in the newborn suite and patient care areas must be white or off-white so that the infants' skin tones will not be distorted. Surfaces of walls and floors must be easy to clean and maintain. For lighting recessed fixtures with deluxe cool white fluorescent tubes are recommended. Light intensity should be 100 foot candles at cot mattress level. Because NICUs are so expensive to build and operate, it is recommended that they should be planned on a regional basis.

335. NELLIST, A. I. **Building for the mentally handicapped.** *Health and Social Service Journal*, London, 1974, Dec. 14, vol. 84, no. 4417, pp. 2883-2884.

With the concept of 'normalization' in mind, education and health authorities have started sizeable building programmes for the mentally handicapped, but the use of a domestic scale of building has produced disappointing results in cost reduction. Reasons for this are that the new single-storey buildings cover a large area, often have a very high ratio of external wall to internal space and are subject to inflation because of a long planning stage. Also fittings cost more than in the older type of building. System or unit building could be used if the buildings were sufficiently flexible. Disadvantages in this are that although the structural shell can be provided quickly, conventional methods are still needed to provide essential services. Flimsiness of walls, sound and thermal insulation and fire resistance cause problems. The cheapest form of structure, a plain rectangular building with a flat roof, offers little variety

and the internal appearance is frequently 'temporary'. In spite of these faults system building provides for easy and quick erection of buildings, overcomes many labour problems, fulfils an urgent need and should save money although not dramatically. These advantages can only be gained if the limitations of a system are accepted, the system is designed as a totality and the buildings are designed according to their purposes.

336. HAESSIG, R. and PINTER, E. Psychiatrische Privatklinik Sanatorium Kilchberg. **[Kilchberg Sanatorium private psychiatric hospital.]** *Veska*, Aarau, 1974, Dec., vol. 38, no. 12, pp. 677-685.

The new building for the Kilchberg private psychiatric hospital (architect: Rolf Haessig, Zürich) provides for 240 patients. The three-storey building is L-shaped with patients' rooms (mainly two-bedded) on three floors on a single corridor plan. On the ground floor a waiting hall occupies the area between the two wings. Each patient floor has its own separate dining-room and day-room and the top floor has a roof garden. The paper is illustrated with a site plan, plans of each floor, and four photographs. [A description of this hospital also appeared in: *Hospitalis*, Zürich, 1975, Jan., vol. 45, no. 1, pp. 3-7.]

GARDENS AND GROUNDS, PARKING

337. NEWMAN, R. **A quiet revolution in hospital landscape design.** *Gardeners Chronicle*, London, 1974, April 19, pp. 17-19; April 26, pp. 32-34.

This paper describes the design and maintenance of the gardens and grounds of the nine hospitals in the Dudley and Stourbridge group. The group gardening superintendent has a budget of £8,000 excluding labour. Shrub planting is extensive, as is ground cover, a combination which gives visual pleasure as well as the minimum of maintenance throughout the year. All the decorative and bedding plants used are raised in a central nursery in the grounds of Prestwood Chest Hospital or the hardy nursery stock propagation unit at Wormsley Hospital. Lining out stock and bare root material are grown on an acre of land at the Limes Hospital, Himley. Ten photographs are included.

ENGINEERING SERVICES

See also Abstract Nos. 316, 317, 322

338. WHITE, P. A. F. **A chemical engineering contribution to medical technology.** *Biomedical Engineering*, London, 1974, Dec., vol. 9, no. 12, pp. 556-558, 562.

The place of the engineer in medical technology is receiving increasing attention. Limited contributions are already made by a minority of chemical engineering departments and industry, but closer examination reveals four main areas in which the involvement of chemical engineers may be expected to expand: (i) physiological processes; (ii) prostheses; (iii) aids to medical activities external to the body; and (iv) hospital technology. Each of these is considered in some detail.

TRANSPORT IN GENERAL

339. PETER, E. Versorgung und Entsorgung im Kreiskrankenhaus Herford. **[Supply and disposal in the Herford District Hospital.]** *Krankenhaus*, Stuttgart, 1974, Nov., vol. 66, no. 11, pp. 448-457.

At the Herford District Hospital, Western Germany, a comprehensive automatic internal transport system is linked with central stores and a catering system based on central portioning of meals. The linen store, the central sterile supply stores, and other stores are linked to form one large area which is adjacent to the post room, the medical records department and the pharmacy. Different sizes and types of containers are used for the automatically controlled transport of food, clean linen, dirty linen, sterile supplies, waste, drugs, post, general stores, and laboratory specimens: each is described and illustrated.

VENTILATION AND AIR-CONDITIONING

See also Abstract Nos. 397-399, 404

340. SJUKVÅRDENS OCH SOCIALVÅRDENS PLANERINGS- OCH RATIONALISERINGSINSTITUT. Dimensionering av luftbehandlingsanläggningar inom sjukhus. **[Determining the size of air-conditioning plants in hospitals.]** (Spri råd 5.17) Stockholm, Spri, 1974, 26pp.

This advice note provides data that will facilitate the construction of suitable and functional air-conditioning installations at reasonable investment and operating costs. Recommended levels are: (i) room temperature during the heating season, 20°-24°C, the lower temperature being acceptable when outside temperatures are low; (ii) room temperature during other times of the year, 20°-26°C, or up to 30°C with maximum sunshine and outside warmth; (iii) humidification is not necessary for reasons of comfort; (iv) air flow of at least 40 cu.m./hour and person; and (v) air velocity not exceeding 0.10m. per second in patient rooms at the bed head, 0.15m. per second in sections of rooms in which unclothed patients are placed temporarily and 0.20m. per second in all other spaces occupied by persons continuously. Before the indoor climate is determined, the interaction between building design and installations must be studied. At the same time the investment, operating and maintenance costs for the buildings and their installations should be carefully weighed against each other. [This abstract has been prepared from an English summary of the advice note.]

MAINTENANCE OF BUILDINGS AND EQUIPMENT

See also Abstract Nos. 381, 397

341. CLARK, S. **Maintenance: paying for wage increases—with staff cuts.** *Hospital Administration in Canada*, Don Mills, Ont., 1974, Nov., vol. 16, no. 11, pp. 57-58.

Reducing a hospital's staff in order to lower costs, although sometimes necessary, is more likely to add to other costs such as those for maintenance and equipment. It is often better to try to reduce such costs first, for example by carrying out repairs before they are absolutely essential, by which time further damage to the building or

various items of equipment may have occurred. Also trying to replace staff with expensive equipment will in the long run add to maintenance costs, particularly if the reduced number of staff cannot cope with the maintenance. Drastic reduction of costs for the services of outside contractors can no longer be considered as their own costs, particularly for materials, are rising rapidly.

342. BARNARD, J. Q. **Computerized record of maintenance activities.** *Hospitals*, Chicago, 1974, Nov. 1, vol. 48, no. 21, pp. 102-104, 109.

A maintenance data collection system developed by the author is described. It uses a computer to shoulder most of the work load. Each worker receives a maintenance work request (MWR) for every job assigned to him. This is handed in at the end of each day and accounts for his time, materials used and any contracted services needed for a particular job on a given day. If more than one person is engaged on the job each has his own MWR. An example of the MWR is given and the method of using code letters to fill it in is described. The production control clerk assigns a work request number, determines the status of the job and indicates if no suitable staff are available or if special parts are needed. When the final costs of the job are known the computer totals them. Code numbers are used to distinguish the type of work, for example repairs, remodelling, preventive maintenance, and the hours worked, cause of request and action taken are filled in. The computer can tabulate and summarize the information on the MWR in any way required and the system enables the hospital administration to review quickly how and where the maintenance costs arise. Seven reports, two daily and five monthly are generated by the computer so that administration, department heads and section supervisors can monitor maintenance activities. It would take three full-time clerks to produce the information generated by the computer which needs less than half the time of a clerk to supervise. The programming of the system would cost about $1,000 and there would be the cost of key punching and computer time in addition.

EQUIPMENT, FITTINGS, FURNITURE

FLOORS AND FLOOR COVERINGS

See Abstract No. 396

ELECTRONIC EQUIPMENT

See Abstract Nos. 430, 434

STAFF GENERALLY

STAFF MANAGEMENT

See also Abstract No. 350

343. GREENE, J. A. **Restructuring staff time: the eight-day week.** *Hospital & Community Psychiatry*, Washington, 1974, Nov., vol. 25, no. 11, pp. 733-735.

A group of psychiatrists in private practice who also provide services for in-patients at a private psychiatric hospital in Birmingham, Ala., tested and adopted an eight-day week. In conjunction with hospital social workers they form teams that alternate in working 10 hours a day for eight consecutive days, from Monday to Monday. They then have six days off. All team members work each Monday. The new system was generally accepted by staff and patients, and after 16 months there was a significant drop in the average length of hospital stay and in cost per patient. Staff absenteeism was also cut.

STAFF RELATIONS

See also Abstract No. 350

344. GORHAM, M. **Joint consultation.** *Health and Social Service Journal*, London, 1974, Dec. 21/28, vol. 84, nos. 4418/9, pp. 2927-2928.

This paper describes the joint consultation system which operates in the portering department of the Doncaster Royal Infirmary. Joint consultation can be regarded as a mixture of authoritarian and participative management styles and the author analyses the reasons why the system will fail if introduced as an end in itself. Decision-making may be seriously hampered if not prevented if the staff side is allowed power without corresponding responsibility. Joint consultation should rather serve as a transition from an authoritarian to a fully participative style of management.

STAFF TRAINING

See also Abstract No. 456

345. BROOK, P. and others. **Educational centre for hospital professionals.** *Health and Social Service Journal*, London, 1974, Dec. 21/28, vol. 84, nos. 4418/9, pp. 2932-2933.

This paper describes a multidisciplinary teaching centre which is to open early in 1975 at Warley Hospital, a large psychiatric hospital just outside Greater London. It was planned partly in response to proposals by the Department of Health and Social Security that teaching centres in new hospitals should be used by all professional staff, not just doctors, and partly as a result of the team approach already favoured by Warley Hospital. The centre is to be housed in a new prefabricated building which comprises: (i) a lecture theatre seating 120 people; (ii) a library for common use, to be run by a qualified librarian, and with space for up to 5,000 volumes; (iii) two seminar rooms each seating up to 20 people; (iv) an audiovisual studio; (v) five offices, mainly for use by tutors; (vi) a practical training and demonstration room for nurses; (vii) an assembly area with facilities for light meals; and (viii) cloakroom and toilet accommodation. A joint users' committee is to be set up to review demands and allocate facilities.

STAFF WELFARE

See also Abstract Nos. 391, 392

346. LAZINSKI, H. and OPPENEER, J. **Hospitals offer employees health programs.** *Hospitals*, Chicago, 1974, Nov. 16, vol. 48, no. 22, pp. 66, 68.

In conjunction with the Nursing Education Committee of the Milwaukee County Heart Unit and the American Heart Association, three Milwaukee hospitals offered their staff a series of educational programmes on risk factors in heart disease. Three two-hour sessions of each programme were scheduled during a 24-hour period, with a one-month interval between each programme. The programmes included lectures, films, brochures and exhibits. Questionnaire surveys of those who attended showed that their understanding of risk factors and preventive measures increased and indicated that they had taken steps to improve their health.

SPECIAL CLASSES OF STAFF

MEDICAL STAFF

See also Abstract Nos. 343, 442

347. GROZUCZAK, J. and OLANDER, G. A. **A problem-oriented approach to medical staff committee structure.** *Hospital Medical Staff*, Chicago, 1974, Nov., vol. 3, no. 11, pp. 10-15.

The multiplicity of committees on which doctors must serve places a heavy burden on the staffs of small hospitals. At Lake Forest (Ill.) Hospital, a 161-bed community hospital, this problem became acute in 1972. There were about 100 medical staff and 16 standing committees. A core group of doctors sat on several committees, for example, eight were members of five or more committees and 14 were on three or more. Other committees were formed to evaluate aspects of medical care and though other professional staff besides doctors were involved in evaluation they were not represented on medical staff committees. Efforts were made to streamline the cumbersome committee structure and improve communication with other groups. The system which emerged is called a 'problem-oriented' medical staff committee structure. The first step in reform was to determine the problems of the medical staff organization and how they were interrelated. It was decided that functions fell into three broad categories: medical care appraisal, education, and hospital service. Four standing committees emerged: the executive committee which incorporated the credentials committee; medical care appraisal; medical education; and service. Non-medical representatives became members as necessary. A diagram illustrates the new medical staff committee structure. The system has operated smoothly and productively in the year since its inception. The medical staff function more efficiently and communication with other groups has improved.

NURSING STAFF

See also Abstract No. 457

348. GALLOWAY, B. T. **The nurse as a professional manager.** *Hospitals*, Chicago, 1974, Nov. 1, vol. 48, no. 21, pp. 89, 92, 94.

Many nurses, highly skilled in their own profession, move on to management

positions with little or no formal training for their new role. The Association of Western Hospitals has since 1971 sponsored workshops which aim at providing such training. Participants are asked to consider three questions: what is a manager; am I a manager; and do I really want to be a manager. These questions are discussed in the paper and a table illustrates management functions and related activities. The differences between being a practitioner (self-management) and managing others is considered. Some nurses find it difficult to make a choice when they realize that management probably means moving away from the personal nursing function. The quandary of the nursing profession over the role of nurse and the role of nurse as manager must be dealt with by clarifying two issues: accountability and work to be performed. Nursing schools should provide the means of educating their students in what the role of manager entails. Nursing management is only as effective as the overall management of the hospital. Administrators and medical staff should help the nurse manager to assume full identity and stature in the ranks of management. The nurse in management must be there of her own volition and must be recognized as a peer in management, not as a supernurse.

OTHER PROFESSIONAL AND TECHNICAL STAFF

See Abstract Nos. 338, 455

ANCILLARY STAFF

See Abstract No. 344

ORGANIZATION AND ADMINISTRATION

See also Abstract Nos. 347, 348, 353, 423

349. GLOVER, G. I. and LAYCOCK, E. P. **The organizational chart in perspective.** *Hospital Administration in Canada*, Don Mills, Ont., 1974, Nov., vol. 16, no. 11, pp. 36, 38-40.

The organization chart, a graphical representation of the formal organization of an enterprise at any given time, is described and evaluated. The manager needs such a chart if he is to be able to co-ordinate the enterprise's work efficiently. Charts will vary according to the type of enterprise, but the functions of these charts will apply to most organizations, including hospitals. Charts are often based on the 'scalar' method, which represents the organization of an enterprise as a hierarchical structure. Functional methods of organizing the chart usually stress work specialization rather than authority structure. The organization chart can show managers: (i) whether the enterprise is being adequately controlled; (ii) whether there are clear chains of command, with one immediate superior for every subordinate; (iii) whether various tasks are being efficiently shared between administrative personnel; and (iv) whether there are effective interrelationships between various staff sections, and whether there is adequate communication between them. In addition, other staff can use the

chart to see where they fit into the organization and how the authority structure affects them. Problems may occur if the chart presents either an over-simplified or too complex view of the organization, and the chart must be continually updated to allow for staff changes.

350. De organisatie van de beleidsdeelname in instellingen van gezondheidszorg. **[Organization of staff participation in the management of health care establishments.]** *Instelling-Management*, Den Haag, 1974, Dec., vol. 6, no. 12, pp. 484-487.

There are four important factors which argue for the need and desirability of all staff having a say in the management of a hospital: people ought to take part in decision making on their working conditions and the aims of their organization; the quality of management would be improved; the chances of efficient performance would be significantly increased; and external relations would be improved if the whole staff bore responsibility. The greatest obstacles to staff participation are that it is time consuming and that communication creates difficulties. As an example the organization set up at a psychiatric hospital is described. Four groups of staff (treatment, finance and administration, personnel and organization, and planning and buildings) discuss their own interests and link with central management and with each other. The representatives serving on the various committees should be elected (and changed) periodically to prevent the formation of an 'elite'.

351. SWINDEN, L. B. **Management structure.** *Hospital & Health Care Administration*, Prahran, Victoria, 1974, Oct., vol. 4, no. 10, pp. 15, 18-21.

The Royal Melbourne Hospital is a busy teaching hospital which was established in 1846. The organizational pattern had changed very little over the past century and was inadequate for the needs of the present decade. This paper examines the deficiencies in the existing organization and describes the new management structure which was evolved to take its place, emphasizing the need for such a structure to be clearly defined in terms of relationships between departments and between people. The principal change has been from the traditionally 'flat' organization common in most hospitals to a 'deeper' arrangement more in keeping with the size of the institution.

GOVERNING BODIES, COMMITTEES

352. NELSON, R. A. **The governance of voluntary teaching hospitals in New York City.** New York, Josiah Macy Jr. Foundation, 1974, 71pp.

This study involved an examination of: (i) the legal management and professional structure of six voluntary teaching hospitals in New York City; (ii) the nature and organization of their boards of trustees; and (iii) their relationships with affiliated medical schools and other health related institutions. The report discusses some of the current problems involved in governing these hospitals and makes a number of recommendations for action towards a more effective system.

ECONOMICS OF HOSPITAL MANAGEMENT

See also Abstract Nos. 354, 355, 433, 436

353. MORSE, E. V., GORDON, G. and MOCH, M. **Hospital costs and quality of care: an organizational perspective.** *Milbank Memorial Fund Quarterly/Health and Society*, New York, 1974, vol. 52, no. 3, pp. 315-346.

This study examines the impact of several dimensions of organizational structure on indicators of hospital efficiency and the level of adoption of new medical technology. Attention is focused on the degree to which resource allocation decision making is centralized and on levels of visibility of medical and economic consequences. The evidence presented suggests that, in terms of efficiency, organizational structure is an important factor in determining whether gains in effectiveness outweigh costs associated with the adoption of new medical technology.

RUNNING COSTS

See also Abstract Nos. 367, 422, 440

354. BERRY, R. E. **Cost and efficiency in the production of hospital services.** *Milbank Memorial Fund Quarterly/Health and Society*, New York, 1974, vol. 52, no. 3, pp. 291-313.

This paper summarizes the general findings of a study, the purpose of which was to complete a detailed analysis to identify and measure the effects of factors which significantly affect the cost and efficiency of the short-stay general hospital system in the United States. The empirical analysis involved data on about 6,000 hospitals for the years 1965, 1966 and 1967 and involved a model which expressed hospital cost as a function of the level of output, the quality of services provided, the scope of services provided, factor prices, and relative efficiency. The statistical analysis does provide insight to the factors affecting hospital cost: (i) hospital services are produced subject to the economies of scale but the absolute magnitudes are rather insignificant; (ii) on the basis of the exceedingly limited data available it can be concluded that quality does affect costs; (iii) medical education is a significant factor affecting costs; and (iv) product mix has a significant effect on costs. Three separate analyses are summarized specific to the product mix difference aspect of the production of hospital services, its effect on hospital cost analysis, and techniques that can be used to account for product mix. Finally, an analysis of the characteristics of high cost and low cost hospitals is summarized.

355. DRAKE, D. F. and RASKE, K. E. **The changing hospital economy.** *Hospitals*, Chicago, 1974, Nov. 16, vol. 48, no. 22, pp. 34-40.

Historically, the growth of the hospital economy is best explained by increasing demand induced by third-party insurance coverage and rising income levels. However, an analysis of recent experiences indicates that demand considerations no longer hold substantial explanatory power for hospital inflation. Instead, increased prices for the goods and services hospitals consume influence current hospital behaviour. Implications of this finding for public policy include: (i) as the prices hospitals pay are beyond their direct control, wage/price guidelines or controls have little effect on hospital inflation; (ii) with the advent of national health insurance and a surge in demand, especially for ambulatory care, simultaneous demand and cost-induced inflation must be

averted; and (iii) the full impact of cost inflation can be reduced somewhat by increased efficiency of hospital operations. Government can assist by alleviating current regulations that detract from efficiency and by eliminating internal inconsistencies in existing regulations.

BED OCCUPANCY, ECONOMIC USE OF BEDS

356. RITTER, G. Berechnung der Bettennutzung im Krankenhaus. **[Estimating the use of beds in hospitals.]** *Krankenhaus*, Stuttgart, 1974, Nov., vol. 66, no. 11, pp. 443-445.

Two nomograms for use in hospital planning and control are reproduced and examples of their application given. The first relates the functional dependence of the three factors length of stay, bed occupancy and number of patients per bed and year so that if any two of the factors are known the third can be read off immediately. The second nomogram relates the number of beds and the number of patient days to bed occupancy and again any single unknown factor can be read off from any two known ones.

357. VÄÄNÄNEN, I. and others. **Models of dependence of hospital utilization upon medico-social factors.** In: Mathematical models in biology and medicine: proceedings of the IFIP-TC4 Working Conference ... Varna, 6-11 September 1972, edited by N. T. J. Bailey and others, pp. 97-110. Amsterdam & London, North-Holland, 1974. £6.80.

This paper reports a study, based on the Finnish hospital system, with two objectives: to construct an ecological level model for explaining regional differences in the use of hospital services, based upon quantifiable and predictable variables; and to predict future regional bed requirements by means of the model so constructed. The multiple equation recursive model presented here is regarded as reasonably suitable for use, but is not regarded as a final one.

DATA PROCESSING

See also Abstract Nos. 342, 361, 420, 429-431, 437

358. KOZA, R. C. **Health information systems evaluation: proceedings of the symposium ... August 15-17, 1973, Aspen, Colorado, sponsored by Health Care Management Systems, Inc.** Boulder, Colo., Colorado Associated University Press, 1974, ix, 352pp.

This volume presents the papers and dialogue between 22 medical and health care staff, computer specialists and researchers. The emphasis of the symposium was towards the state-of-the-art and the experiences of the participants rather than the theoretical aspects of evaluation. Following an introduction, the papers are in three groups: state-of-the-art overview and theoretical considerations; methodologies and experiences; and impact of health information systems and evaluation experiences. A list of 107 references to the literature is included.

359. VALENTINO, H. N. **Real-time HIS has medical uses.** *Hospitals*, Chicago, 1974, Nov. 16, vol. 48, no. 22, pp. 54-58.

Deaconess Hospital, Evansville, Ind., installed a real-time, on-line hospital information system after two years of extensive systems study and evaluation. A turnkey system was selected in preference to building the hospital's own system on the grounds of cost and speed of implementation. Each nurses' station has at least one cathode ray tube (CRT) and one printer; larger units (45 or more beds) have three CRTs and one printer. Lengthy reports are printed on a high-speed line printer in the computer room; about 400 different reports are currently printed on this. Details are given of the implementation and operation of the system and of staff attitudes and training and the benefits of a real-time system are outlined.

360. GARDINER, S., BAKER, G. and GRADWELL, D. **A database management system in practice.** *Data Processing*, London, 1974, Nov./Dec., vol. 16, no. 6, pp. 377-378, 380-381.

As a result of a major review of experimental programmes for computers in British hospitals, it was found that there was a considerable degree of commonality between the applications proposed by four projects: United Cambridge Hospitals, University College Hospital, Charing Cross Hospital and St. Thomas' Hospital. Agreement was reached on a co-ordinated project to produce four systems with a substantial common element. This objective was to be gained in three stages: (i) procurement of the same manufacturer's hardware, now achieved with the installation of a Rank Xerox Sigma 6 computer at each hospital; (ii) development of common software and file structures, which forms the basis of this paper; and (iii) development of applications jointly for two or more hospitals. A common hospital data base, of which each hospital uses a subset, was developed to economize on file design effort and facilitate the interchange of programes between hospitals. The use, design and documentation of the data base are outlined. The extended data management system, a Codasyl-based implementation, is used for data base management.

ORGANIZATION AND METHODS, WORK STUDY

See Abstract No. 437

MEDICAL RECORDS

See also Abstract Nos. 358, 360

361. KENNY, D. J. **Confidentiality and the growth of computers.** *Hospital and Health Services Review*, London, 1975, Jan., vol. 71, no. 1, pp. 6-9.

Maintaining confidentiality has become more difficult with improvements and developments in the delivery of health care. Four areas of change which have particularly affected confidentiality are: (i) complexity of the health care system and segmentation of medicine; (ii) diminution or erasure of old boundaries between primary and institutional care and between physical, mental, social and spiritual health; (iii) complicated route for patients through the caring machinery; and (iv) changing

attitudes of the patients themselves. The principal need is to obtain a balance between security and efficiency. In designing defences against a leak, two approaches are possible: (i) those who have legitimate access to patient information must be identified, and everyone else excluded unless the patient consents; and (ii) exposures to be avoided must be identified and classified. The introduction of computers intensifies existing problems with regard to confidentiality. It is important that adequate restrictions should be built into the system, even at the expense of convenience, and that the system should be continually monitored.

362. KAUFMAN, T., VORZIMER, J. J. and METZ, D. **The POMR in an ED.** *Hospitals*, Chicago, 1974, Nov. 1, vol. 48, no. 21, pp. 59-62.

A problem-oriented medical record system has been in use in the emergency department of Beth Israel Medical Center, New York City, since April 1973. The registration form used contains the usual registration and demographic information in the top part and in a section marked 'PROBLEM' the clerk enters the patient's reason for coming to the department. The doctor elicits a subjective history and performs an objective examination of the patient and records his initial assessment. Boxes on the form are ticked if X-rays, tests, etc. are needed. Based on the results of these a treatment plan can be devised and a plan for patient education formulated. Only the primary physician and the nurse write on the main record sheet but this is supplemented where necessary by problem-oriented consultation and progress sheets. A number of advantages result from the logical, structured approach of a problem-oriented medical record. It promotes a unified record-keeping system and results in legible and complete notes. Duplication and unnecessary writing are eliminated and socio-economic problems are often uncovered when the plan for treatment and patient education is worked out. The system makes it easier for on-coming staff to understand the record and auditing is made easier and quicker. The only significant difficulty in the use of problem-oriented medical records has been changing staff habits. The record sheet and the audit form for utilization review are reproduced in the paper. [This paper also appeared in: *Hospital Medical Staff*, Chicago, 1974, Nov., vol. 3, no. 11, pp. 27-33.]

363. VALLA, L. and THORSVEEN, A. Mikrofilming av sykejournaler. **[Microfilming of medical records].** *Norsk Sykehustidende*, Oslo, 1974, Oct., vol. 47, no. 10, pp. 202-203.

Between 1960 and 1975, the area required for storage of A4 medical records by Akershus Central Hospital increased from 40 m^2 for 25,000 records to 220 m^2 for 180,000. Records comprise an average of 37 pages each and are increasing at the rate of 15,000 to 20,000 a year. It was therefore decided to commence microfilming the records in 1973, starting with patients born before 1900 and the 15,000 case histories of deceased patients. The saving in space for inactive records is 95 per cent but for active or potentially active records only 80 per cent, since in these cases it is necessary to retain a primary archive of conventional A4 records for patients treated during the current year (about 50,000). All records used are marked with coloured Sellotape, a different colour each month, in order to see which papers are classified as 'inactive'. Records over a year old are microfilmed and stored. Total transfer to microfilm records will cost about n.kr. 160,000 (£8,000), including purchase of 50 or 60 micro-

readers. Savings are estimated to be of the level of n.kr. 50,000 to 60,000 (£2,500 to £3,000) a year over a 10-year period. Future plans involve closed-circuit television retrieval of microfilmed journals. The paper is illustrated with a graph of the estimated future area requirements and a sketch of a 65-page microfilm jacket.

HOSPITAL STATISTICS

See Abstract No. 358

FINANCE AND ACCOUNTING

FINANCE

364. LIVINGSTONE, J. L. and GUNN, S. C., editors. **Accounting for social goals: budgeting and analysis of nonmarket projects.** New York, Harper & Row, 1974, 407pp. £6.50.

The main objective of this book is to show a way of contributing towards the attainment of social goals through the use of accounting. It includes both reprinted and new work and is in six parts: general introduction; social issues and social accounting; resource budgeting in organizations; cost effectiveness analysis; multiple goal programme budgeting information systems; and evaluation and control. Each part includes theory (readings) and interrelated practice (cases). Two of the readings and three of the case studies deal specifically with hospitals.

365. WIKFORS, B., LARSSON, B. and PERSSON, S. Försök med rambudgetering och driftplanering. **[Experiments with budget-setting and operational planning.]** *Landstingens Tidskrift*, Stockholm, 1974, Dec., vol. 61, no. 14, pp. 23-26, 28-29.

A nine-man committee of hospital administrators and medical consultants has worked out a budgeting plan for the Malmøhus County hospitals based more on category of patient than on category of expenditure. Running costs are divided into only three categories: pay, materials and internal items. All the various small categories of running costs are included under one lump sum placed at the hospital director's disposal. Investment grants are also included in one lump sum: the net result is a significant reduction in detailed accounting. Individual departments are therefore budgeted for on the basis of forecasts of the evolution in numbers in the various diagnostic categories, based on records of ward days from 1969 to 1972. Tables illustrate this for all diagnoses and for the department of medicine. A points system is used to draw up a financial budget. On the basis of a three-year record of out-patient visits a running plan and financial budget are drawn up for medical out-patients and admissions. The figures are summarized in an overall table. The experimental system works very well, providing much information (although few analyses) and illustrates the need for an accurate record of peak loading periods. Tables illustrating each of the steps are included.

366. LUSK, E. J. **Hospital investment evaluation.** *Accounting & Business Research*, London, 1974, pp. 303-314.

Institutions responsible for the delivery of health care services have experienced

rapidly increasing costs which in large measure are traceable to an expanding technology base. Effective control over the resource allocation function is basic to containing costs, but investment evaluation in health services is a complex process which is largely unresolved and has not been effectively used in controlling costs. This paper suggests a normative investment evaluation system which will enable those responsible for the allocation of hospital resources to differentiate among alternative investments based upon their relative contribution to achievement of the various levels of hospital goals. The role orientation of the two decision-making groups, physicians and administrators, is first discussed. As strict profitability models are inapplicable, the authors suggest the incorporation of a relevance model in the planning, programming, budgeting hierarchical ordering of goals. The relevance model and its procedures are described and a suggested application is outlined.

HOSPITAL ACCOUNTING

367. RUSSELL, E. M. **Patient costing study.** (Scottish Health Service Studies No.31) Edinburgh, Scottish Home and Health Department, 1974, iv, 60pp. £0.50.

The aims of this study were to: (i) create a simple method of costing the hospital treatment of individual patients for the purpose of comparative studies; (ii) identify the costs of different items of service received by different patients to allow comparisons of variations between diseases, treatments, patients or hospitals; and (iii) devise appropriate methods of recording the use of services. The study has shown that it is feasible to use a fairly simple method of reallocating hospital running costs so that they can be accounted for on the basis of use of services by individual patients. Areas for further study are suggested, including some difficult aspects which merit special consideration.

SUPPLIES AND STORES

SUPPLIES

See also Abstract Nos. 339, 408

368. TOWLER, B. R. **Reflections on secondment: a personal view.** *Hospital and Health Services Review*, London, 1975, Jan., vol. 71, no. 1, pp. 17-19.

The author describes his secondment from the National Health Service (NHS) supplies organization to the Health Service Supply Branch of the Department of Health and Social Security (DHSS). The appointment of a small number of senior hospital supplies staff to work for the DHSS has been relatively successful in spite of some objections to the secondment system on the grounds that it would not attract staff of the quality required. Under this scheme seconded officers were given real executive responsibility, including normal personnel responsibilities. The author gives his own suggestions on how the secondment system might be improved and expanded. These include: (i) secondment to incorporate the right to be considered for transfer to the permanent staff of the DHSS, with all the consequences of promotion and transfer prospects within the Civil Service; (ii) secondment of permanent civil

servants from Supply divisions to NHS posts; (iii) refresher periods for secondees, consisting of several weeks annually back in a NHS authority; and (iv) a review of the attitude of NHS selection committees towards seconded officers who seek to return to the field.

PURCHASING

369. **Group tendering: advantages and disadvantages.** *Hospital Administration in Canada*, Don Mills, Ont., 1974, Nov., vol. 16, no. 11, pp. 44-46.

Group tendering involves the establishment of contracts and fixing prices and products required between the participants in such a group scheme and various suppliers. After this group activity, each participant becomes responsible for placing his own orders and settling accounts. At a joint meeting of hospital purchasing staff and health product suppliers, held in Alberta, the advantages and disadvantages of such a scheme were defined. The advantages for the hospital are: (i) standardization of goods and services; (ii) freeing of inventory to provide greater cash flow; (iii) an expanded product range may develop; (iv) reduced administrative costs; and (v) more readily available supplies. For the supplier they are: (i) standardization can reduce the supplies inventory; (ii) more accurate forecasting of inventory requirements; (iii) greater buying power develops; and (iv) more information is provided to assist manufacturers in forecasting production. Disadvantages for the hospital are: (i) possible loss of communication concerning product information; (ii) possible loss of new product development; (iii) loss of freedom of choice concerning products and services; (iv) possible elimination of secondary supplies; and (v) deterioration of service. For the suppliers they are: (i) danger of producing monopolization; (ii) unemployment of some sales staff; (iii) increased transport cost to more than one destination, under existing transport policies; and (iv) loss of contact with individual hospitals, particularly with regard to the introduction of new products.

CATERING, DIETETICS, KITCHENS

HOSPITAL CATERING

See also Abstract No. 376

370. FRICKER, A. Krankenhausverpflegung—auch ein lebensmitteltechnologisches Problem. **[Hospital catering—also a food technology problem.]** *Krankenhausarzt*, Karlsruhe, 1974, Nov., vol. 47, no. 11, pp. 628, 633-634, 636.

This paper discusses the relationship of food technology processes to the nutritional value, physiological aspects and appearance of meals served in hospitals. Food preservation methods can be either chemical or physical: the former include salting, pickling, smoking, etc., as well as the use of additives; the latter include heat (pasteurization or sterilization), cold (refrigeration or deep-freezing), dehydration, and irradiation. The influence of these techniques on the nutritional value, appearance and taste is outlined.

371. PAULUS, K. Mögliche Systems der Gemeinschaftzverpflegung. **[Possible systems of communal food supply.]** *Krankenhausarzt*, Karlsruhe, 1974, Nov., vol. 47, no. 11, pp. 621-622, 624, 626-627.

This is a general survey of the various systems which exist for communal catering services, including those in hospitals. Meals can either be prepared commercially, in central kitchens or in separate kitchens. The types of food dealt with include the following: sterilized; deep-frozen; pasteurized and refrigerated; refrigerated; warm; and fresh. The special problems for hospitals which arise because of the need for diets are discussed. No attempt is made to recommend any particular system since the need will vary according to circumstances.

372. WUNDERLICH, H. Wirtschaftliche und technische Aspekte sowie der Einfluss der Bundespflegesatzverordnung bei der Auswahlkost. **[Economic and technical aspects of selective menus and the effect of the Federal Charge per Patient Day Regulations.]** *Krankenhaus*, Stuttgart, 1974, Dec., vol. 66, no. 12, pp. 488-491.

Selective menus are being increasingly offered in West German hospitals. They have had a positive psychological effect on patients, they have reduced the quantity of wasted food, and they have led to a decrease in the number of special diets needed (in one 1,000-bed Hamburg hospital the introduction of selective menus enabled the percentage of special diets to be reduced from 40 to 21). Enquiries at a number of hospitals have shown that food and labour costs have not been increased, or have been increased only very slightly, by the introduction of selective menus. A discussion on food distribution systems concluded that central portioning with conveyor belts is most suited to a selective menu system. Since 1 January 1974 hospitals are bound by the Federal Charge per Patient Day Regulations to make an agreed standard charge to cover all general hospital services, including catering, which applies to all patients. Section 6 of the Regulations allows for certain additional amenities for which the patient pays extra and this could include special food. But the German Hospital Association has expressed the view that there should be uniform meals for all patients with at least two choices of dish for each meal. Some *Länder* agree with this view.

373. HAASE, J. Frühstück und Abendessen im Krankenhaus in küchentechnischer Sicht. **[Breakfast and supper in the hospital from a food technology point of view.]** *Krankenhaus*, Stuttgart, 1974, Dec., vol. 66, no. 12, pp. 482-484.

Where possible central portioning of individual breakfast and supper trays on a conveyor belt is to be recommended, using individual prepacked portions of such items as butter, sugar, marmalade, bread or crispbread, coffee, milk, salads, etc. Where central portioning is not possible meal components should be supplied to wards for trays to be set up there. As much as possible should be done by machine rather than by hand. Full use should be made of such convenience foods as instant soup, beef extract, etc.

374. HARTMANN, E. Wochenendverpflegung im Krankenhaus. **[Weekend food service in the hospital.]** *Krankenhaus*, Stuttgart, 1974, Dec., vol. 66, no. 12, pp. 479-482.

A modification of the Swedish Nacka system for refrigerator-stored precooked

meals, which makes it possible for food to be prepared in advance of weekends and public holidays, is described. It is known as 'Stuttgart Pasteurized Chilled Food'. After cooking and sealing in multiple-portion plastic containers the food is heated to at least +80°C for 10 minutes, cooled to +2°C in 90 minutes, cold-stored for up to 14 days at from —2°C to +2°C, warmed as required to 80°C for 10 minutes, and retained at 60°C for not longer than 60 minutes.

375. SCHNEIDER, R. F. **Food service: inhouse production capacity proves effective.** *Hospitals*, Chicago, 1974, Nov. 1, vol. 48, no. 21, pp. 71-72, 76.

An inhouse manufacturing system of frozen component meals and the use of microwave ovens has been adopted at the United States Air Force Regional Hospital, Minot, N.D., a seven-storey 80-bed hospital. About 400 meals are served daily, 60 per cent to patients, about 60 per cent of which are served through the tray service and the remainder in the cafeteria. Less than $22,000 was needed to convert the old system to the new. A blast freezer, packaging system and two additional 72 cubic foot storage freezers were installed in the kitchen and five microwave ovens were fixed to to the food trolleys. A kitchen-type microwave oven was installed in the main cooking area. All the frozen meal components are prepared in the hospital kitchen in accordance with standard recipes. Foods are held in the blast freezer for about six hours or until a temperature between —30°F and —40°C is reached. The blast freezer can accommodate each day's production in a single operation. A three- to four-week supply of all items is held in the storage freezer. Food is defrosted in the kitchen-type microwave oven and stacked in the tray assembly area at room temperature for 20 to 30 minutes. Food to be served hot is put on a dinner plate in the refrigerated part of the trolley and heated in the microwave oven just before serving. A seven-day cycle selective menu is used for the tray service and a two-week menu for the cafeteria. There are regular safety checks on the microwave ovens and microbiological examination of the food produced in the manufacturing system. The catering department has a staff of 26.

DIETETICS IN THE HOSPITAL

376. JAHNKE, K. Die Krankenhausverpflegung aus ärztlicher Sicht. **[Hospital catering from a medical point of view].** *Krankenhaus*, Stuttgart, 1974, Dec., vol. 66, no. 12, pp. 472-475.

Preventive and therapeutic nutrition should be taken particularly seriously in the hospital. Normal hospital meals are often not properly balanced and are of an excessive calorific value. There is usually too long an interval between the preparation of a meal and its consumption and meals are often too unevenly spaced throughout the day. It is recommended that the average day's meals should provide 2,400 calories, 70 to 90 g. protein, 90 to 95 g. fat and 280 to 310 g. carbohydrate. The amount of cholesterol should not exceed 600 mg. daily. The ratio of unsaturated to saturated fatty acids should be increased and the free, excessive use of salt is undesirable. For the limited number of patients who need a higher calorie intake specific food supplements should be prescribed. Patients must be adequately informed on nutritional matters.

377. NOELLE, H. Standardisierung der Diäten (Grund-Diäten). **[Diet standardization (basic diets).]** *Krankenhaus*, Stuttgart, 1974, Dec., vol. 66, no. 12, pp. 476-479.

Six standard diabetes diets are set out, showing for each the quantities of individual foodstuffs for all meals, their protein, fat and carbohydrate content, and their calorific value. These standard diets can be used as a basis for all other diets. For example the 150 g. carbohydrate diet can be used for weight reduction, and as a 'coronary diet' for patients with heart infarct and vascular diseases.

378. WIRTHS, W. Frühstück und Abendverpflegung in ernährungsphysiologischer Sicht. **[Breakfast and evening meals from a nutritional and physiological point of view].** *Krankenhaus*, Stuttgart, 1974, Dec., vol. 66, no. 12, pp. 484-488.

This paper analyses the nutrient constituents of breakfast and the evening meal, as well as of between-meal snacks, in West German hospitals. The total recommended average daily calorie intake is 2,400 of which 720 are to be supplied by the main midday meal, 600 each by breakfast and evening meal, and 240 each by the mid-morning and mid-afternoon snacks. Recommendations are also made on requirements of carbohydrates, protein, fats, mineral elements, vitamins and linoleic acid.

379. SPANGLER, A. A., CEDERQUIST, D. C. and BLACKMAN, C. A. **Physicians' attitudes on dietitians' contributions to health team care.** *Journal of the American Dietetic Association*, Chicago, 1974, Dec., vol. 65, no. 6, pp. 646-650.

A study at Michigan State University was designed first to identify doctors' attitudes towards: (i) the contribution of dietitians to the health team care; (ii) the assignment of dietary-related duties; and (iii) dietitians' involvement in ordering diets; and second to determine: (i) the frequency of discussion of diet problems between doctors and dietitians; and (ii) the extent to which doctors use diet therapy as part of patient care. Questionnaires were sent to chiefs of staff, hospital administrators, dietary department heads and dietitians of 236 Michigan hospitals; 57 per cent were returned. Hospitals ranged in size from seven to 1,043 beds. Chiefs of staff believed the contributions to patient care ideally made by the dietitian were determining food preferences of patients and giving dietary instructions. They frequently think that the dietary department should be auxiliary to other parts of the health team. Interdisciplinary co-operation should occur by attendance at interdepartmental meetings and the preparation of diet manuals. Although in most hospitals doctors ordered diets from a diet manual most of them favoured more interaction between doctor and dietitian in ordering diets. According to the doctors the three most important abilities of dietitians should be: (i) using their knowledge of food composition in designing diets; (ii) using nutrient recommendations for individuals in various states and environments in planning the patient's diet pattern; and (iii) ensuring the patient's satisfaction with the food. A table in the text gives some details of participating hospitals and five others summarize some of the replies to the questionnaire.

380. KLUTHE, R. Ernährungsaufklärung für Patienten und Pflegepersonal. **[Nutritional education for patients and nursing staff].** *Krankenhaus*, Stuttgart, 1974, Dec., vol. 66, no. 12, pp. 498-500.

Although the doctor is responsible for prescribing special diets and the dietitian for adapting them to the individual patient, and explaining to him their importance, the nurse has an important part to play in the administration of the diet. It is important therefore that nurses should have instruction in the general principles of nutrition,

special dietary foods, assessing food consumption, and the principal basic diets. Patients should be told about the importance of diets and before they are discharged their wives should be instructed in the preparation of diets in the home: this can to some extent be done by group discussions. When the patient has been discharged he is exposed to pressures and ill-judged advice which can only be counteracted by proper dietary education while in hospital.

KITCHENS

See also Abstract Nos. 324-326, 387

381. MYERS, W. W. **Dietary maintenance program established.** *Hospitals*, Chicago, 1974, Nov. 16, vol. 48, no. 22, p. 79.

In 1957 Buffalo (N.Y.) General Hospital inaugurated a maintenance programme for its catering equipment. The catering service was decentralized at that time and an outside contractor was hired to repair and maintain the equipment using his own tools. The cost, including parts, was approximately $7,500 per year. Following centralization of the service and the retirement of the contractor, the hospital recruited a new employee, the food service equipment technician, who reports to the director of food service. He repairs stainless steel equipment and does most of the minor refrigeration maintenance. He is consulted when new equipment is being considered and has designed a number of adaptations to improve equipment. Since the hospital started its maintenance programme there have been no major breakdowns and most of the catering equipment purchased within the last 10 years is still in good condition.

CANTEENS, STAFF DINING-ROOMS

See Abstract No. 326

HYGIENE IN THE HOSPITAL KITCHEN

382. FRANK, H. K. Mikrobiologische Aspekte der Krankenhausverpflegung. **[Microbiological aspects of hospital catering.]** *Krankenhausarzt*, Karlsruhe, 1974, Nov., vol. 47, no. 11, pp. 637-638, 640, 642-643.

The basic principles of kitchen hygiene are discussed with special attention paid to food stores and cold storage rooms as well as to the kitchens themselves. Thorough cleaning must always be followed by adequate disinfection and it is very important that cleaning staff be properly trained. Disinfectants must always be applied in the recommended dilutions and the choice of disinfectants should be the responsibility of the infections committee. The paper includes a short account of bacterial food poisoning and the types and characteristics of the micro-organisms involved.

WASHING UP, CLEANING OF EQUIPMENT

383. MCCAUGHEY, P. E. and MONTAG, G. M. **Use and cost of supplies for machine washing of permanent tableware.** *Journal of the American Dietetic Association*, Chicago, 1974, Nov., vol. 65, no. 5, pp. 548-553.

A study was conducted in nine hospitals to obtain data on cost and consumption

of detergents used in the machine washing-up of permanent tableware. It was undertaken as part of a larger project designed to compare the economics of permanent and disposable tableware. The objectives of the study were: (i) to evaluate consumption of detergents and chemicals by objective and subjective tests and supporting data; and (ii) to compare consumption and costs of detergents and chemicals per 1,000 items of ware washed in hospitals using the same trade name products. Detergents and chemicals refer to the pre-soak chemical, washing detergent, rinse additive and de-lime chemical, each of which serves a different purpose in the washing-up process. The hospitals used in the study varied in size from 25 to 463 beds and the meals served daily ranged from 96 to 1,803. Dishwashing was centralized in all hospitals. Four used permanent ware exclusively except for isolation patients and the others used some disposables. The study procedure is outlined and the primary and evaluative data are described. The findings are set out in a number of tables and commented on. Results show that a large amount of detergent does not necessarily result in clean dishes. The use of the correct amount, the training of the staff in proper work methods, and maintaining the machine in good working condition are important factors in obtaining good results.

LAUNDRIES AND LINEN SERVICE

LAUNDRIES

See also Abstract No. 406

384. VOLKMAR, H. Vergabe von Krankenhauswäsche an gewerbliche Wäschereien. **[Transfer of hospital washing to commercial laundries.]** *Krankenhaus Umschau*, Kulmbach, 1974, Dec., vol. 43, no. 12, pp. 1006-1009.

An enquiry in Western Germany two years ago revealed that, of 497 hospitals, 391 had their own laundry, 32 used the laundry of another hospital, 13 used a central laundry and 31 used a commercial laundry. A further investigation has shown that, in acute hospitals, the average weight of laundry per bed year is 698 kg., per patient 39.7 kg. and per patient day 2.25 kg. Between 1969 and 1973 the average cost per 100 kg. increased by from 42 to 60 per cent according to the size of hospital. It is calculated that any hospital where the cost per 100 kg. exceeds DM 120 should seriously consider how it could obtain better results. It is essential that any type of laundry undertaking hospital work should be able to meet the special standards required and the paper reproduces the text of 'Guidelines for the processing of hospital laundry in hospital laundries, central laundries or commercial laundries' to show what these standards are. The proposed regulations for determining costs allow only DM 1.20 per patient day for laundry whereas calculations show that linen replacement alone works out at DM 1.29 per patient day.

HOSPITAL LINEN AND TEXTILES

385. STARK, T., GORMLEY, W. and MAXWELL, R. **The use of polyester/cotton blended sheets in hospital wards.** *Hospital Engineering*, Stevenage, 1974, Dec., vol. 28, pp. 24-27.

This paper describes trials of blended sheets in a hospital, including studies in

maternity, geriatric, orthopaedic and infectious wards. Nurses thought that the blended sheets were easier to handle and added to the patients' comfort, though they tended to increase perspiration in some patients. Most patients preferred the sheets they used at home, but indicated that they liked the blended sheets. Laundry operatives preferred the blended sheets. The washing process is described. Bacteriological tests indicated that the sheets were disinfected to an acceptable standard by the washing process. The 50/50 blend showed shrinkages equal to those of cotton, but the 67/33 blend less than cotton. Research into static electricity effects has indicated that the use of polyester cotton in areas other than those where anaesthetic gases would be used was a possibility not to be lightly discounted in view of the expected benefits in use and cost. This study does not contradict these findings but, by inference, implies that the use of blended sheets on ward beds is acceptable.

HOSPITAL DOMESTIC MANAGEMENT

DOMESTIC WORK

386. Principes van schoonmaakeronderhoud. **[Principles of maintenance cleaning.]** *Voeding- en Huishoudgids*, Amsterdam, 1974, Dec. 5, vol. 41, no. 501, pp. 640-646.

The basic principles of routine hospital cleaning for different areas and different types of flooring and other surfaces are described and also set out in tabular form. One table summarizes cleaning methods under the following heads: area or department; possbile floor coverings; desirable standard of cleaning; method (including frequency); type of cleaning materials; and cleaning materials to be avoided. A second table lists seven types of cleaning materials and their characteristics. Two further tables are devoted to the cleaning of toilets and sanitary installations: the first lists the types of cleaning materials, and their characteristics, and the equipment for applying them, while the second summarizes the 25 operations which form the cleaning process.

387. Schoonmaakonderhoud van grootkeukens. **[Kitchen cleaning.]** *Voeding- en Huishoudgids*, Amsterdam, 1974, Dec. 5, vol. 41, no. 501, pp. 647, 649, 651, 653, 655.

Kitchens and other areas where food is prepared in hospitals represent a special problem for the cleaning services. This paper deals with all aspects of the subject under the following heads: floor maintenance; walls and fittings; working surfaces; food preparation and cooking equipment; shelves and cupboards; sinks and drains; personal hygiene; washing up (manual and by machine); and detergent dispensers.

388. Schoonmaakonderhoud van operatiekamers. **[Cleaning of operating theatres.]** *Voeding- en Huishoudgids*, Amsterdam, 1974, Dec. 5, vol. 41, no. 501, pp. 657, 689.

Regular cleaning and disinfecting of operating theatres is most important for the maintenance of an acceptable standard of hygiene. The use of a disinfecting detergent is aimed at preventing the transmission of infection by cleaning equipment and solutions rather than at disinfecting the floor. The most used disinfectants are those based on chlorophenols, chloroxylenols and certain quaternary ammonium compounds. The

method and frequency of cleaning and the care taken by the cleaner are more important than the type of disinfectant. Cleaning equipment must be thoroughly cleaned and disinfected after use.

HYGIENE IN THE HOSPITAL

HOSPITAL INFECTIONS

389. GONZENBACH, C., WANNER, H. U. and GANZONI, N. Keimausbreitung in einem Behandlungszentrum für Schwerverbrannte. **[Spread of micro-organisms in a burns unit.]** *Sozial- und Präventivmedizin*, Zürich, 1974, Sept./Dec., vol. 19, nos. 5/6, pp. 329-335; summaries in French and English p. 334.

Tests in a fully air-conditioned burns unit have shown considerable variations in the bacterial counts of samples from the same wound. In order to determine the influence of air-conditioning in inhibiting the spread of bacteria samples were taken before, during and after a change of dressing in the room and in the corridor outside. During the change of dressing the bacterial count rose but fell sharply again afterwards: in the corridor the count remained relatively constant. Comparative tests in a room with natural ventilation showed a sharp rise and a much slower reduction in counts. Tests were also made in various parts of the unit: most micro-organisms were found on the hands of doctors and nurses but also on such items as door handles and telephones.

390. RUSSENBERGER, H. J., SCHOLZ, E. and WANNER, H. U. Bakterielle Kontaminationen der Raumluft in Intensivpflegestationen. **[Bacterial contamination of the air in intensive care units.]** *Sozial- und Präventivmedizin*, Zürich, 1974, Sept./Dec., vol. 19, nos. 5/6, pp. 337-341; summaries in French and English p. 341.

Bacteriological studies in intensive care units demonstrate possible sources of infection and the effect of control measures. Tests have revealed that the airborne bacteria counts can vary between 100 and 400 per mm., according to the air changes. Respiratory air humidifiers can be a source of danger: 10^6 bacteria per ml. were found in the water and 4,000 per mm. in the air stream. It is essential that these humidifiers be changed and sterilized frequently. In the airstream of Engstrom respirators up to 60 bacteria per mm. were demonstrated. Compressed air, nitrous oxide and oxygen were practically germ-free.

391. DAVIS, T. J. and MATSEN, J. M. **Prevalence and characteristics of *Klebsiella* species: relation to association with a hospital environment.** *Journal of Infectious Diseases*, Chicago, 1974, Oct., vol. 130, no. 4, pp. 402-405.

In 1970 *Klebsiella* species were the most frequent cause of septicaemia at the University Hospitals of Minnesota and in the last two years there have been two major epidemics in its intensive care units. This paper reports a study of the prevalence and characteristics of *Klebsiella* strains from people away from the hospital environment, patients newly admitted to hospital, hospital staff, and patients who had been in hospital for more than 15 days. *Klebsiella* were isolated from 37, 33, 30 and 43 per cent of these groups respectively. All but one of the isolates from individuals not associated with hospitals were resistant to only ampicillin and carbenicillin, whereas 18 per cent

of strains isolated from patients who had been in hospital more than 15 days were resistant to several drugs. Fifty-one of 72 possible serotypes of *Klebsiella* were found, but no types were predominant in any group.

392. GREAT BRITAIN. PUBLIC HEALTH LABORATORY SERVICE. **Decrease in the incidence of hepatitis in dialysis units associated with prevention programme.** *British Medical Journal*, London, 1974, Dec. 28, vol. iv, pp. 751-754.

A prospective study of the incidence of hepatitis among patients and staff of most of the dialysis units in the United Kingdom has been in progress since January 1968. A prevention and control programme started in January 1970 includes testing all patients and staff in a unit regularly for hepatitis B antigen (HBAg) and the transfer of any infected patient to isolation for dialysis. From 1972 onwards almost all blood for transfusion was tested by the regional transfusion services. Results of the survey for 1971-2 show that the rising incidence of hepatitis B was halted and can be assumed to be the result of the prevention and control campaign. The programme has continued with a sustained decline in the incidence among patients from 4.9 per cent in 1970 to 1.4 per cent in 1972 and among staff from 1.3 per cent in 1970 to 0.4 per cent in 1972. It appears that when analysed the results for 1973 will show a further decline.

393. FLEWETT, T. H. and others. **Epidemic viral enteritis in a long-stay children's ward.** *Lancet*, London, 1975, Jan. 4, vol. i, pp. 4-5.

Two outbreaks of acute gastroenteritis occurred in 1974 in a long-stay children's ward. Electron microscopy demonstrated rotaviruses in faeces from the affected children in the first outbreak, and adenoviruses in faeces from affected children and a nurse in the second outbreak. The illness in both outbreaks was very mild. Neither the rotaviruses nor the adenoviruses could be established in tissue culture. In the first outbreak one child seems to have brought the virus into the ward and transmitted it to others directly or indirectly. It is likely that the virus will be stable and may persist in the environment unless destroyed by careful disinfection. In the second outbreak adenoviruses seem to have come from a common unknown source and to have affected several children at the same time.

394. BETTELHEIM, K. A. and others. **Spread of *Escherichia coli* colonizing newborn babies and their mothers.** *Journal of Hygiene*, London, 1974, Dec., vol. 73, no. 3, pp. 383-387.

In previous papers the authors have shown that the majority of babies are colonized with strains of *Escherichia coli* which are present in the maternal faecal flora. The present study, using the same patients as previously, revealed that those babies who did not acquire their maternal faecal flora acquired strains of *E. coli.* belonging to a small number of the possible serotypes. Moreover, the same serotypes were found in several babies and other mothers suggesting spread within the ward. These few strains included some of the O group which had previously commonly been found as urinary pathogens and it is suggested that they may have increased potentialities for colonization of the human bowel.

SOURCES OF INFECTION

See also Abstract No. 390

395. PASCH, J. H. **Food and other sources of pathogenic microorganisms in hospitals: a review.** *Journal of Milk and Food Technology*, Shelbyville, Ind., 1974, Oct., vol. 37. no. 10. pp. 487-493

This paper discusses the role of food and some other materials in the transmission of micro-organisms to patients in hospitals. This tranfer can occur in three ways: (i) pathogenic bacteria can be brought in on food itself and if this food is not cooked, as is true of many fruits and some vegetables, bacteria can be transferred from the food to the patients; (ii) catering staff may be carriers of pathogenic bacteria which can be transferred to the patients via the food supply; and (iii) mishandling of food by improper or insufficient heating, refrigeration and storage can result in foodborne illness. Proper food handling together with adequate staff education are probably the most practical means to control the problem of hospital infection resulting from hospital food. A list of 55 references to the literature is included.

396. ROTTER, M. Untersuchungen über die Beeinflussung des Luftkeimgehaltes durch Teppichböden. **[The effect of carpeting on the number of airborne bacteria.]** *Sozial- und Präventivmedizin*, Zürich, 1974, Sept./Dec., vol. 19, nos. 5/6, pp. 321-328; summaries in French and English p. 327.

Air samples were taken at two-hourly intervals over a three-month period in a carpeted hospital corridor and then for a similar period with the carpet removed from the flagstoned floor. During the hours of greatest activity (between 06.00 and 14.00) the bacterial count over the carpeted floor was significantly higher than without the carpet; at other times there was no significant difference. Counts at 30 cm. and 170 cm. above the floor did not differ. Except for carpet shampooing, cleaning had no effect on the bacterial count. Vacuum cleaning somewhat reduced the average count but the difference, as compared with the count at the same time of day when vacuuming took place later, was not statistically significant. Bacterial counts on the carpet surface were reduced by vacuuming by 50 to 66 per cent: shampooing reduced them by 93 per cent. Human movement has a much greater effect on bacterial air contamination than does the floor covering.

PREVENTION AND CONTROL

See also Abstract No. 382

397. BOTZENHART, K. and RÜDEN, H. Betrieb und Wartung von Klimaanlagen mit besonderer Berücksichtigung der Luftfilter. **[Operation and maintenance of air-conditioning with special emphasis on air filters.]** *Sozial- und Präventivmedizin*, Zürich, 1974, Sept./Dec., vol. 19, nos. 5/6, pp. 343-349; summaries in French and English p. 348.

The necessary measures to ensure the bacteriological safety of air-conditioning installations have been set out in a number of recently published papers. Regular inspection is particularly important for the cleanliness of cooling devices and droplet collectors, to prevent bacterial growth in the water chambers of humidifiers, and for the proper working of filters. Regular bacteriological checks are also necessary on the air inlets in air-conditioned rooms. Investigations have shown that, with relative

humidity of up to 95 per cent, no bacterial growth is found on filters under normal conditions. Monitoring with measuring instruments and maintenance are often imperfect and cannot replace hygienic measures.

398. TOLON, M. and BOTZENHART, K. Versuche zur Wirksamkeit von UV-Strahlern zur Luftentkeimung im Krankenhaus. **[Tests of the effectiveness of anti-bacterial UV irradiation in hospitals.]** *Das Öffentliche Gesundheitswesen*, Stuttgart, 1974, Nov., vol. 36, no. 11, pp. 799-806; summary in English p. 799.

A series of experiments designed to test the efficiency of indirect ultraviolet radiation in the elimination of airborne micro-organisms in patient areas is described. The results show that while good results were obtained with artificially contaminated air this was not the case under normal working conditions. While efficient air-conditioning can eliminate a large proportion of airborne micro-organisms indirect ultraviolet irradiation is not a satisfactory method.

399. WANNER, H. U. and WIRZ, M. Hygienische Aspekte der Luftbefeuchtung in Klimaanlagen. **[Hygienic aspects of humidification in air-conditioning installations.]** *Sozial- und Präventivmedizin*, Zürich, 1974, Sept./Dec., vol. 19, nos. 5/6, pp. 351-356; summaries in French and English p. 355.

The increase in the bacterial counts of four different air humidifiers was monitored over several weeks. Regular addition of disinfectants (based on chlorine, aldehydes and tensides) only partly inhibited bacterial growth and the disinfectant could be detected in the air of the room. By far the best results were obtained by ultra-violet lamps fitted between the circulation pump and the water chamber. Even with this method it is essential that the water chamber be cleaned at least two to three times a week. The penetration of micro-organisms into room air can most effectively be prevented by the fitting of terminal filters.

400. ZIHLMANN, M. and ANDERES, R. Spitalhygiene heute—kritisch betrachtet. **[Hospital hygiene today—a critical review.]** *Sozial- und Präventivmedizin*, Zürich, 1974, Sept./Dec., vol. 19, nos. 5/6, pp. 307-313; summaries in French and English pp. 312-313.

The basic principles of hospital hygiene are widely known but there is often a gap between theory and practice. The correct use of the right disinfectants is important and care should be taken to ensure that subordinate staff are properly trained in their use. Certain problems relating to sterilization procedures (in particular the use of ethylene dioxide, which is of limited application in hospitals) have yet to be solved satisfactorily. The packaging of sterile materials must be subjected to a regular inspection and control. If hygiene is to be effective in hospitals, discipline must be enforced on all hospital staff and doctors and nurses must set a good example to other workers.

401. KUIPERS, J. S. **Skin disinfection with ethanol, without and with additives.** *Archivum Chirurgicum Neerlandicum*, Wageningen, 1974, vol. 76, no. 1, pp. 15-25.

The immediate action and the long-term effect of 75 per cent and 95 per cent ethanol with and without 0.5 per cent chlorhexidine or 0.1 per cent hexachlorophane were studied. Four laboratory tests revealed no difference between the immediate

effects of 75 per cent and 95 per cent ethanol. The immediate action was not enhanced by the addition of chlorhexidine or hexachlorophane. In three tests adapted to conditions of practical use, the immediate action of 95 per cent ethanol proved to be better than that of 75 per cent. An enhanced long-term effect was obtained by the addition of chlorhexidine or hexachlorophane; it makes little difference which of these is added. Dilution of ethanol by moist skin proved to be the cause of the fact that 75 per cent ethanol had less effect than 95 per cent; when the skin was well dried and large amounts of disinfectant were used, the concentration of 75 per cent proved to be as effective as 95 per cent. For practical reasons, 95 per cent ethanol is to be preferred for the pre-operative disinfection of the hands; its use for all purposes might be advisable for the sake of uniformity. Since serum decreases the immediate action of ethanol, this substance should not be used for the disinfection of instruments.

402. TANNER, F. La désinfection des surfaces. **[Disinfection of surfaces.]** *Sozial- und Präventivmedizin*, Zürich, 1974, Sept./Dec., vol. 19, nos. 5/6, pp. 315-320; summaries in German and English p. 320.

The disinfection of surfaces on a regular routine basis should form an important part of hospital hygiene. Surfaces in patient areas should be treated daily, in public rooms and offices weekly, and in service areas as required. The disinfectant should be combined with a detergent and should be bacteriologically active, effective in a high dilution, a good detergent, not harmful to materials, non-volatile and should cost very little more than a common detergent. Methods of testing and applying disinfectants are described as are surveillance techniques. To achieve maximum control the disinfection of surfaces should form part of a comprehensive plan for hospital hygiene.

HYGIENE IN THE OPERATING THEATRE

See also Abstract Nos. 388, 405

403. LEWIS, R. G. and METCALF, E. **Operating room: settle plate assessment of airborne infections.** *Dimensions in Health Service*, Toronto, 1974, Dec., vol. 51, no. 12, pp. 13-14, 16-17.

This report gives the results of some experience in air monitoring at Hotel Dieu Hospital, Kingston, Ont., using the simple settle plate technique which matches closely the probable means of wound contamination during surgery. The air of the operating theatres was sampled three times a day (during preparation for an operation, during the operation and while the theatre was not in use) once a month throughout 1973. The number of bacteria-carrying particles per cubic foot of air was calculated and the results obtained are given for each operating theatre. The highest count was obtained during surgery and the lowest when the theatre was not in use, in keeping with the results of others who have shown that bacterial air count varies with the number of people in a room and the extent of their activity. Variation between the different samples at the same time period would seem to indicate different levels of air contamination in different parts of the theatre. A higher level of air contamination during the latter months of the study could be accounted for by an increase in bacteria

shedding individuals due to rotation of staff and less cleaning time due to high work load.

404. SELL, J. C. **Mechanical needs in the operating and delivery suites.** *Hospitals*, Chicago, 1974, Nov. 1, vol. 48, no. 21, pp. 79, 82, 84, 150.

Recognition of the importance of airborne infection has led to many recent developments. One example is laminar air flow. In this paper requirements for mechanical filters and air changes are discussed together with the problems of air pressures, personal comfort, humidity and safety. A number of principles essential in air-conditioning and ventilating areas such as delivery and recovery suites are set out and discussed: (i) the thermal requirements for comfort and safety must be met; (ii) only clean air should be introduced into the suite; (iii) filtration should remove most if not all microbial contamination from the air before it is brought into the suite; (iv) air from an area where it might be contaminated must never be allowed into an area where a patient might become infected; and (v) a system's performance should be checked to ensure that airflow and relative air pressure relationships are maintained according to the design.

STERILIZATION

405. MITCHELL, E. and others. **Merits or otherwise of sterilizing theatre and other instruments prior to handling by staff of CSSD/TSSU.** *ASSA Journal*, Matlock, 1974, Dec., vol. 3, no. 2, pp. 5-8, 10.

The four papers in this symposium discuss the desirability of sterilizing theatre and other instruments before they are handled by the staff of central sterile supply departments or theatre sterile supply units and present methods for carrying out the sterilization considered necessary by the individual authors.

406. NUNNIKHOVEN, J. Sterilisatie van polyester/katoen. **[Sterilization of polyester/cotton.]** *Industrie Textile Belge*, Bruxelles, 1974, vol. 16, no. 10, pp. 49-51.

Polyester/cotton textiles (65/35) for use in operating theatres can be suitably steam-sterilized at 134°C for three to four minutes. If a hospital is thinking of going over to polyester/cotton textiles for theatre use their sensitivity to hydrolysis under extreme conditions must be borne in mind. If the sterilization system in use is found not to suit polyesters one must (in order to take advantage of its other qualities) either be satisfied with a shorter life, or modify the sterilization time; alternatively special 100 per cent cotton goods should be kept separately for theatre use. The possibility of using sterilization methods other than saturated steam is under examination.

407. **Central sterile supply: production planning and control.** (Abstracts of Efficiency Studies in the National Health Service, No. 169) London, Her Majesty's Stationery Office, 1974, [2]pp. £0.06.

A new, purpose-built central sterile supply department was opened by the then Wessex Regional Hospital Board in 1965; it was intended to supply a complete range of sterile products to the major part of the region. By 1969 it was supplying approximately 13,000 beds and was still expanding its service but was having difficulty in meeting its commitments. This abstract describes the production, planning and control system

introduced following a comprehensive study of the service. The production line layouts and working methods were revised. A daily work load system was chosen for recording and controlling production because it was the easiest and cheapest to install and maintain. The system is outlined. Additional autoclaves were installed. It was recognized that the duties of the superintendent were wholly managerial and his deputy was given day-to-day control of production and both he and the supervisors were trained to operate the new production control system. Special purchases were made to increase stocks of re-usable items and buffer stocks were created by the staff working overtime.

408. MOORE, O. G. and others. **Commodity shortages—what is the answer?** *ASSA Journal*, Matlock, 1974, Dec., vol. 3, no. 2, pp. 12-17, 19-20, 22-24.

The six papers in this feature deal with possible shortages of supplies used by central sterile supply departments (CSSD). They deal with: (i) some answers to shortages; (ii) paper supplies and shortages; (iii) the supply of surgical gauze and associated products; (iv) plastics; (v) the views of the Department of Health and Social Security; and (vi) the effect of shortages on a CSSD manager in Northern Ireland.

AIR HYGIENE

409. BLYTHE, M. E. and others. **Study of dust mites in three Birmingham hospitals.** *British Medical Journal*, London, 1975, Jan. 11, vol. i, pp. 62-64.

Samples of dust were collected from wards in a general hospital, a geriatric hospital and a skin hospital. Mites were found on the floors of all three hospitals. The skin hospital showed fewest mites, and the general hospital most. The differences were attributed to variations in number of visitors, ward activity and cleaning regimens. The cleaning programme in the skin hospital was particularly rigorous, and vacuum cleaners were used. Plastic-covered mattresses were almost completely free of mites, but foci were found on soft furnishings and on the jackets and overcoats of hospital staff. The total numbers of mites were small in comparison to those found in house dust, and hospital mites probably do not constitute a serious problem for asthmatic patients. It may however be worthwhile to prevent as far as possible the disturbance of dust in the vicinity of asthmatic patients.

DISPOSAL OF WASTE

See Abstract No. 339

SAFETY MEASURES

ELECTRICAL ACCIDENTS

410. CURRAN, W. J. and others. **Electrical safety & hazards in hospitals.** New York, MSS Information Corporation, 1974, 219pp. $17.50.

This volume contains 16 papers, previously published in periodicals, arranged in

four groups: (i) general considerations; (ii) electrical hazards in operating theatres; (iii) electrical hazards and cardiovascular function; and (iv) malfunction and misuse of hospital equipment. Also included is a guide to current research containing summaries obtained through a search of the Smithsonian Science Information Exchange data base.

411. OSYPKA, P. Sicherheitsfragen bei der Anwendung elektromedizinischer Geräte am Menschen. **[Safety problems in the use of electromedical instruments.]** *Veska*, Aarau, 1974, Dec., vol. 38, no. 12, pp. 703-715.

It is estimated that there are about 5,000 different electromedical instruments on the market and their increasing use in direct contact with the human body makes its protection from electrical hazards more and more important. This paper deals in detail with the whole subject under the following heads: physiological processes; experimental studies on man; experimental studies on animals; electrical danger areas in the hospital and in the laboratory; and protective measures.

RADIATION HAZARDS

412. STIEVE, F.-E. Möglichkeiten zur Verringerung des Risikos durch die Strahlenexposition in der Röntgendiagnostik. **[Possibilities of reducing radiation exposure risks in X-ray diagnosis.]** *Bundesgesundheitsblatt*, Berlin, 1974, Dec. 20, vol. 17, nos. 25/26, pp. 394-401; summary in English p. 400.

In order to prevent injury to the human organism by exposure to ionizing radiations during diagnostic procedures such exposure must be limited to what is absolutely essential. Three factors help to limit the exposure of the patient: proper regard to the indications for X-ray examinations; a suitable choice of examination method; and a correct choice of examination technique. These factors are illustrated by a number of examples which show the importance of a proper assessment of need and of technical expertise.

413. ROSENBAUM, O. Die Röntgenverordnung und ihre Bedeutung für die technische Ausstattung von Röntgenbetrieben. **[X-ray regulations and their significance for the technical equipment of X-ray units.]** *Krankenhausarzt*, Karlsruhe, 1974, Nov., vol. 47, no. 11, pp. 608, 610-611, 614-617.

The Federal German government's Radiation Protection Regulations, which came into force on 1 September 1973, aim at protecting patients, staff and the general public from direct and indirect harmful effects of X-rays. This paper outlines the provisions of the Regulations with special reference to the equipment and apparatus required to meet them. This is dealt with under the following heads: general; apparatus; instruments; image reproduction; radiation protection accessories; and radiation measurement instruments. There are 10 photographs of equipment.

THE PATIENT

WELFARE OF THE PATIENT

See also Abstract No. 453

414. VISLIE, A. "Pasienten i sentrum"—myte eller realitet? **['The patient in the centre'—myth or reality?]** *Norsk Sykehustidende*, Oslo, 1974, Nov., vol. 47, no. 11, pp. 226-228.

The sociological role of the patient in an institution or hospital is one of total dependence: one is in the nurses' and doctors' power whilst being unable to affect one's own or one's family's situation. Intelligent patients feel insulted when informed on arrival that 'we'll eat our dinner now won't we dear' or when doctors talk about them over their heads 90 per cent of the time. Many unnecessarily irritating routines persist: being woken up at 05.00 or 06.00, being taken down for examination just as a meal is served and then having to wait for hours in the corridor, having to listen to pop programmes on television or other people's radios, or being exhibited at clinical pathology meetings. The reasons for these abuses are seen by the sociologists as being due to the hierarchical system, out-of-date routines, and people's attitudes. Patients are so grateful for having anything done for them at all that they do not see the hospital services as consumer goods which they have paid for and have a right to complain about and expect to see improved. We can do little to change attitudes, but we can improve the system. The patient is in the centre today—as a 'case': one forgets the patient is also a person. The slogan should be 'The whole patient in the centre'.

415. BRUUSGAARD, D. Pasientombudsmann—en skinnløsning? **[An ombudsman for the patient—a solution?]** *Norsk Sykehustidende*, Oslo, 1974, Nov., vol. 47, no. 11, pp. 222-226.

The Pan-Scandinavian Council (Nordisk Raad) has unanimously adopted proposals for the establishment of a hospital ombudsman in order to safeguard the rights and interests of patients. There is a conflict of interest between patients, staff and society: patients want the best system available; staff want well-paid, meaningful work at regular hours with the minimum of personal engagement; and society wants the best, cheapest and simplest system it can get. Priorities have largely been the responsibility of politicians; patients and doctors have had very little influence on planning. The population needs informing that the system is not infallible but that its aim is nevertheless the maximum possible reduction of errors. If mistakes are made, patients and their relatives must be guaranteed the best possible legal assistance. Any debate regarding the aims of the health service is a political discussion, not the private and privileged preserve of doctors. It is as yet uncertain whether there is to be one national patient ombudsman per country or one per hospital. The Nordic Council proposes that the ombudsman 'shall have personal contact with the individual patient' and that his sphere of competence shall be limited to the period of hospital stay only. Provision of optimum legal aid for patients who have been misinformed or wrongly treated should offer few problems: it is unnecessary to have ombudsmen at every single hospital, responsible for repairing mistakes made by the health service. If patients are un- or misinformed, priorities must be changed so as to ensure that the persons responsible do indeed keep patients properly informed, rather than setting up an authority to enquire why they were not given the information to which they were entitled. An ombudsman is liable to become one more brick on the wall of silence and concealment between the patient and the authorities. The paper is based on two incidents in Norway in recent years.

416. Cross, K. W. and Turner, R. D. **Patient visiting and the siting of hospitals in rural areas.** *British Journal of Preventive & Social Medicine*, London, 1974, Nov., vol. 28, no. 4, pp. 276-280.

For a period of one week all visitors to Shropshire patients in geriatric, psychiatric and mentally handicapped hospitals were asked to give details of their journey to hospital, including the addresses from which they set out. The results showed that whereas greater distances between home and hospital (up to 20 miles) resulted in little reduction in the frequency of visiting of short-stay (less than six months) geriatric patients and of both short- and long-stay psychiatric patients, they resulted in much less frequent visiting of long-stay geriatric patients. The large majority of mentally handicapped patients were in hospitals outside the county; relatively large distances only were involved and it was not possible to examine this issue for these patients. It is concluded that in this predominantly rural area, the provision of all hospital services at two district general hospital sites would, on the whole, greatly reduce distances travelled by visitors to psychiatric and mentally handicapped patients and would increase distances to geriatric patients. From the point of view of patient visiting there is certainly a case for siting long-stay geriatric patients in units near to their homes, and possibly psychiatric and mentally handicapped patients if their homes are at inconvenient distances from the district general hospital.

VOLUNTARY SERVICE, VOLUNTARY WORKERS

See Abstract No. 458

HOSPITAL SOCIAL WORK

417. Brown, F. L. **Social work support to the health service.** *Health and Social Service Journal*, London, 1974, Dec. 21-28, vol. 84, nos 4418/9, pp. 2939-2940.

The National Health Service Reorganization Act of 1973 imposed a duty on local authority social services departments to provide a social work service to the health service. This paper outlines some of the main differences between the two services which may complicate the smooth running of the new system. The author reviews differences in administrative and geographical structure, the type and number of professionals employed in each service and the differences in their relation to each other and their freedom to operate. He stresses the importance of continuity of care and of adequate staff training in the new system.

THE GENERAL PRACTITIONER AND HIS PATIENTS

See also Abstract No. 454

418. Kincey, J. A. **General practice and clinical psychology—some arguments for a closer liaison.** *Journal of the Royal College of General Practitioners*, Edinburgh, 1974, Dec., vol. 24, no. 149, pp. 882-888.

The author believes that closer liaison between general practitioners and clinical psychologists could be of considerable value to the two professions and to patients.

After outlining the professional training and career structure of clinical psychologists he goes on to describe the areas of expertise. These fall under two heads: the use of psychological techniques in individual cases; and contribution of psychology to more general clinical or organizational research problems. The question of where the clinical psychologist should be situated is considered—whether in general or psychiatric hospitals, health centres or in local government posts. Finally some problems raised by the suggestion of closer liaison are set out. These include referral policy, the need for hospital treatment for some ostensibly psychological conditions and the question of role definition and the possible overlap of skills and interests between psychologists and other professionals with whom they would work if they operated from general practice.

TRANSPORT OF PATIENTS

See Abstract No. 446

HOSPITAL CARE

See Abstract Nos. 353, 414, 451, 459

419. HUMERFELT, S. and others. Relasjonen mellem pasientorientert virksomhet i sykehus og andre helse-institusjoner (på den ene side) og ressurs- og administrasjonsproblemene (på den annen side). **[Relationship between patient-oriented activity in hospitals and other health establishments [on the one hand] and resources and administrative problems [on the other hand].]** *Sykehuset*, Oslo, 1974, vol. 37, no. 7, pp. 420-453.

Increasing specialization and advances in medical technology have resulted in a danger of the patient being alienated in the technological atmosphere of the hospital. In this symposium two medical directors of hospitals, a nurse, a hospital administrator and the secretary of a patients' association discuss the problems which arise in trying to reconcile the needs of patient-oriented activities with the available resources and administrative requirements. Some tentative solutions are suggested.

420. TAYLOR, D. B. and JOHNSON, O. H. **Systematic nursing assessment: a step toward automation.** (DHEW Publication No. (HRA) 74-17) Washington, U.S. Government Printing Office, 1974, viii, 164pp. $2.40.

The purpose of the project reported in this publication was to examine thoroughly the information about patients needed by nurses in order to plan effectively the care to be provided. The report describes the rationale for the information system that was developed. The final forms of the logically structured, computer-manageable nursing assessment forms and manuals which were designed for the system are included as an appendix.

HOME CARE, AFTER-CARE

See also Abstract Nos. 438, 447, 457

421. PAXTON, C. M. **Co-operation and care.** *Nursing Times*, London, 1974, Dec. 12, vol. 70, no. 50, occasional papers pp. 113-116; Dec. 19/26, vol. 70, no. 51, occasional papers pp. 117-119.

This paper describes an investigation into liaison schemes between health visitors and hospitals. The objectives were: (i) to assess the effectiveness of health visiting/hospital liaison schemes in overcoming communication problems; (ii) to assess the benefits to patients and staff; (iii) to discover problem areas and consider solutions; (iv) to estimate costs of schemes; and (v) to consider recommendations and their implementation in the reorganized National Health Service. The scheme in operation in the London Borough of Bromley is described in detail and compared with schemes in three other areas: an inner London borough, a coastal county borough and a small rural county. Several general recommendations are made.

422. RICKARD, J. H. **The costs of domiciliary nursing care.** *Journal of the Royal College of General Practitioners*, Edinburgh, 1974, Dec., vol. 24, no. 149, pp. 839-846.

The levels of domiciliary care were studied in two areas: (i) practice A consisting of five principals with a list of 13,418 and an attached nursing team (which also serves a single practice of 2,660) comprising four full-time district nurses, relieved by one part-time State registered nurse, and two part-time auxiliary nurses; and (ii) practice B with three principals and a list of 6,469 with two whole-time equivalent district nurses (one of whom is also the district midwife) and one part-time auxiliary nurse. Tables in the text compare figures for the two practices in relation to: (i) percentage of the population receiving home nursing during the year; (ii) costs of midwifery and district nursing service 1972; (iii) percentage allocation of working day during sample fortnight; (iv) distribution of visits during week of work study; (v) categories of patients in samples; and (vi) long-term chronic sick patients. The unit costs in practice A are also given in a table. The findings are discussed and comparisons are made with costs of hospital care. The study suggests that even when all short-term costs are considered it is about twice as expensive to support a chronic sick patient in hospital as it is to care for one at home. This takes no account of the hidden 'costs' of domiciliary care such as the sacrifices made by devoted relatives.

SPECIAL DEPARTMENTS

WARDS

423. CONDON, T. B. **A unit management evaluation.** *Hospitals*, Chicago, 1974, Nov. 16, vol. 48, no. 22, pp. 61-62, 64.

Unit management was gradually introduced at Yale-New Haven (Conn.) Hospital from 1967 to 1969. In July 1969 a distinct unit management department was established reporting directly to the administration and charged with five major responsibilities usually performed by the head nurse: service co-ordination, patient assistance, maintenance of supply and equipment standards, secretarial management and budgetary monitoring. Though the system eventually gained the acceptance, appreciation and dependence of the areas it served, an objective evaluation of its contribution to the total patient care effort was deemed necessary. The study was carried out on two similar

general surgical floors, one with and the other without unit management. The results are presented in two tables and are discussed; it was demonstrated that unit management freed nurses from non-nursing functions and thereby allowed them to redirect their time to the performance of patient-centred activities.

OPERATING SUITES

See also Abstract Nos. 388, 404

424. BINNER, W.-H. Vorstellungen über den zeitgemässen HNO-Operationsraum aus der Sicht des Operateurs. **[Thoughts on the present-day ear, nose and throat operating theatre from the viewpoint of the operating staff.]** *Krankenhaus Umschau*, Kulmbach, 1974, Dec., vol. 43, no. 12, pp. 1036-1039.

While as regards sterility, air purity, air change, air locks and supply the ear, nose and throat theatre does not differ from the normal theatre there are a number of special requirements to be met. A number of special instruments have to be installed. The operation field is at the patient's head which should be as near as possible to the clean supply side. The surgeon sits at the head end and the anaesthetist at the foot. The column of the operating table must be near the foot end to allow space for the surgeon's feet and foot switches and it must be possible to transport the patient head first on to the table. The table top must tilt with either the foot end or head end down, the thorax section must be adjustable to a vertical position, and the head tilt from 60° dorsally to a ventral position. Suspended from the ceiling a fitment should enable the microscope, the lamp and the satellite (with all instruments and connections) to move freely on independent arms.

PHARMACY

425. BERGMAN, H. D., FLETCHER, H. P. and SPERANDIO, G. J. **Documentation of clinical pharmacy activities in a VA hospital.** *Drug Intelligence & Clinical Pharmacy*, Hamilton, Ill., 1974, Nov., vol. 8, no. 11, pp. 656-662.

A nine-month study on a 32-bedded general medical ward of the Veterans Administration Hospital, Danville, Ill., was designed to investigate aspects of the pharmacist's clinical roles. It was divided into three phases. Phase one, the Suspected Adverse Drug Reaction (SADR) study lasted throughout the nine months. Phase two, the Deviation from Medication Administration Procedures (DMAP) study began three months later and lasted six months. Phase three was the evaluation of the pharmacist in a consultant role and was conducted during the final five months of the study. An SADR was defined as any unintended or undesired effect of a drug and a DMAP as a change from the doctor's order as written on the chart. The pharmacist collected demographic data and maintained medication records for each patient. A total of 169 patients were involved in the study. Eighty-six SADRs were detected in 60 of them (35.5 per cent); 1,571 medications were administered so the reaction incidence was 5.5 per cent. No deaths were attributed to SADRs but 66 (76.7 per cent) of the 86 required additional treatment and/or change in the administration of the drug or its discontinuance. Patients experiencing SADRs stayed longer in hospital than those without SADRs. In Phase two 10 DMAPs were detected in 4,504 doses, resulting

in a 0.2 per cent deviation rate. There were 276 professional interactions encountered by the pharmacist in Phase three. Most of these were classified as therapeutic. It is concluded that a qualified pharmacist with appropriate training can effectively detect and evaluate SADRs. He can provide services in a wide variety of areas and should also be employed in research.

426. MILLER, B. R. **Drug distribution and pharmacists role in patient care.** *Hospital & Health Care Administration*, Prahran, Victoria, 1974, Oct., vol. 4, no. 10, pp. 11-14.

Many patients in hospital are not receiving the full benefits of drug therapy, owing to several factors including misuse of drugs, ineffective use of professional staff and complex, error-prone medication systems. The situation can be greatly improved if the pharmacy department in a hospital is actively involved in caring for patients. One clinical pharmacy service is described in detail. Unit dose distribution is a system of drug distribution in which the pharmacy department is responsible for packaging individual drug doses ready for administration to the patient. Advantages over more traditional systems of drug distribution include: (i) fewer errors in medication; (ii) less time spent by nursing staff in handling drugs; (iii) reduced costs (the patient is only charged for what is actually used); (iv) reduced wastage of drugs at ward level, since unused drugs can be returned to the department; and (v) increased pharmacist involvement at ward level as part of the health team.

427. MAY, F. E., STEWART, R. B. and CLUFF, L. E. **Drug use in the hospital: evaluation of determinants.** *Clinical Pharmacology and Therapeutics*, St. Louis, Miss., 1974, Nov., vol. 16, no. 5, pp. 834-845.

Hospital patients on a 65-bed general medical service were monitored for adverse effects of drugs and drug use from August 1969 to March 1973. Data were collected on every dose of every drug administered to every patient. A computer was used for the storage, processing and retrieval of data. Bi-monthly reports provided data on patient exposures to all drug dosage forms used. These gave information on 7,575 patients. Nine index drug groups were used to evaluate drug utilization. These were: analgesic, antacid, anti-arrhythmic, anti-microbic, anti-coagulant, anti-hypertensive, anti-inflammatory, diuretic and sedative-tranquillizer. The average number of drugs received by each patient was 8.04; four of the groups, analgesic, anti-arrhythmic, anti-microbic and sedative-tranquilizer, accounted for 70 per cent of the patient drug exposures. The average patient drug exposure for the nine index groups was 4.75. Drug use was significantly higher during the February to March and April to May periods of the study than in the August to September and December to January periods. The formulary system and changes in the availability of drugs had a significant influence on drug use. Distribution of drug information dealing with the use, misuse and adverse consequences of different drugs by the pharmacy and therapeutics committee did not seem to affect drug prescribing. A list of 27 references is given.

428. DELIGANIS, S. G., DOANE, R. and PUCKETT, W. W. **Parenteral distribution in a 262-bed hospital.** *Hospitals*, Chicago, 1974, Nov. 16, vol. 48, no. 22, pp. 71-72, 74.

This paper describes the manual parenteral therapy distribution system of the

262-bed Northwest Hospital, Seattle, Wash. A copy of the physician's order sheet is sent to the pharmacy and is used for ordering intravenous (IV) solutions; a pharmacy technician transcribes the details on to a profile card. Labels are typed and checked against the profile card by a pharmacist. The cards are filed alphabetically and the labels by starting time of the IV therapy. Continuous or routine IV orders are flagged on the profile cards and are sent to the wards at the appropriate times. The system requires one pharmacist and one pharmacy technician to cover the day; all the five pharmacists on the staff rotate in the IV service. Four years' experience has proved the cost effectiveness of the system as well as its contribution to rational IV therapy. This simple, manual system can be adapted to any hospital pharmacy with a minimum of effort and expenses.

429. NEILSEN, C. B., KNIGHT, J. R. and LATIOLAIS, C. J. **Computerized I.V. admixture services.** *Hospitals*, Chicago, 1974, Nov. 1, vol. 48, no. 21, pp. 113-114, 118-120, 122.

The central intravenous (IV) admixture service at Ohio State University Hospitals was computerized and a study was made to determine whether the computerized system was more efficient than the conventional one. The hospital complex has 1,000 beds. The study included: (i) critical analysis of procedures for the manual system; (ii) development and implementation of computer programs to enter, review and update IV admixture orders; (iii) computerization of automatic scheduling of IV admixture orders, the printing of medication labels, IV therapy profiles and worksheets for pharmacists and nurses, admixture preparation lists for compounding purposes and other statistical reports; and (iv) collection and analysis of time study data for the manual and the computerized systems. The advantages of a computerized system are set out and the working of the system and the six data bases are described. The system has been in use for about three years and has resulted in savings in staff time. It has generally been well accepted by pharmacy, medical and nursing staff. Tables in the text: compare clerical activity time required to process and order by the manual and computerized systems; show the average daily work load for the system; and compare pharmacy staff time for various clerical tasks in the manual and computerized systems.

LABORATORIES

430. KELLER, H. and GESSNER, U. **Laboratory automation: state of the art and trends.** *Medical Progress through Technology*, Berlin, 1974, vol. 3, no. 1, pp. 33-36.

It is estimated that two to three billion clinical laboratory tests were carried out in about 12,000 laboratories in the United States in 1973. This represents 10 to 12 tests per capita. Automation has made this possible but it is questionable whether all these tests are really necessary. In principle all analytical chemical procedures can be automated by appropriate instrumentation but the necessary investment must be balanced by economically realizable benefits. No tests are yet available for many important diseases but there are excellent ones for infectious diseases, diseases of muscle, liver and kidney, pathological changes in blood cells, the detection of rare metabolic diseases and cell and tissue typing. The basic methods of automation are: the continuous flow system; mechanized discrete systems; and the 'fast analysers'.

Considerable development may be expected in the area of photometric instrumentation. Kinetic measurement will become more important as will ion-selective electrodes, enzyme electrodes and calorimetry. The role of the computer in the clinical chemistry laboratory is considered. Thirty-six references are cited.

431. HARM, K. **Electronic data processing in the central laboratory of the Hamburg-Eppendorf University Hospital: organization and options.** *Medical Progress through Technology*, Berlin, 1974, vol. 3, no. 1, pp. 45-55.

The organization and possibilities of the electronic data handling system in the central laboratory of the Eppendorf University Hospital are described from the point of view of the user. The laboratory established in 1973 comprises the clinical chemistry, haematology and emergency laboratories. These are connected to different data handling systems; the first is served by the ELIAS system, developed in the department of medical documentation and statistics, and the other two feed into the LABMAT system. The centre of the system ELIAS is a computer (TR 86) with 48k core storage while the computer central to LABMAT is a PDP 8/1 with 16k core storage connected by means of a telephone cable 10 km. long with two IBM/370-168 computers of the Deutsches Elektronen-Synchroton (DES) computer centre. The organization of the laboratory data processing and the use of data retrieval for scientific evaluation are described. The use of a computer system greatly reduces the amount of clerical work and makes the data available in a transparent form so that information can be effectively extracted and used. A number of tables and diagrams are included.

432. RUSSELL, C. D., DEBLANC, H. J. and WAGNER, H. N. **Components of variance in laboratory quality control.** *Johns Hopkins Medical Journal*, Baltimore, 1974, Nov., vol. 135, no. 5, pp. 344-357.

A classical statistical technique known as component-of-variance analysis has recently been applied to clinical laboratory data. This established the value of the method, but it has not been practically applied in other laboratories. In clinical laboratory practice, economic factors and other constraints often prevent use of any but the simplest statistical methods. This paper therefore presents a much simplified version of the component-of-variance technique, which has been found useful in the quality control of *invitro* procedures. The method requires duplicate controls and access to a desk calculator for calculating means and standard deviations. The full analysis requires duplicate samples drawn at separate times from normal controls, but this part can be omitted if the sole objective is quality control. The data collected are used for day-to-day quality control in the conventional manner as well as for periodic analysis by the component-of-variance method. The recommended methods are summarized in two appendices.

433. CARTER, P. M. and others. **Quality and quantity in chemical pathology.** *Lancet*, London, 1974, Dec. 28, vol. ii, pp. 1555-1557.

Chemical pathology departments are experiencing rapidly increasing work loads. In 1961 in England and Wales routine pathology tests in all disciplines numbered 21 million but by 1971 this figure had risen to 45 million. The justification claimed for this growth is that more tests, by contributing to earlier diagnosis, have expedited treatment and thus reduced the length of hospital stay. This, however, is questionable.

There are three main reasons for the increase: more use of established investigations in the same group of patients, more use of the same tests in wider groups of patients, and the introduction of new tests. Not all investigations provide useful clinical information and unnecessary work has been allowed to expand. Reasons for this are: (i) reluctance by laboratory staff to question the work load; (ii) poor critical evaluation of new tests; (iii) poor communication between wards and laboratories; (iv) shortage of specialists; and (v) insufficient critical teaching. Two courses of action are open to laboratory staff—to accept the work load or to question the need for some tests and seek other solutions. It seems important to keep laboratories to a size within the pathologist's span of responsibility and for chemical pathologists to take every opportunity to communicate with their clinical colleagues. If both results and consultant opinions on them are to be supplied the size of the general laboratory must be limited perhaps to serve just one single hospital. Although large laboratories may show lower unit costs they may not be more economical than smaller ones where the pathologists are more closely involved.

434. BROUGHTON, P. M. G. and others. **A revised scheme for the evaluation of automatic instruments for use in clinical chemistry.** *Annals of Clinical Biochemistry*, London, 1974, Nov., vol. 11, pp. 207-218.

An earlier paper considered procedures for testing automated instruments in biochemistry laboratories for comparison of their performance. The scheme has now been modified by simplifying several tests and adding some new ones. This paper deals with the evaluation: of mechanical and electrical features; of analytical precision and its contributory components, carryover and cross-contamination; and of accuracy and its component linearity. It also considers the long-term dependability of the equipment, problems of safety, and requirements for instructional manuals. The general principles of the evaluation scheme should be applicable to other types of equipment.

SKIN BANKS

435. ZELLNER, P. R. and TAUBERT, I. Die Bedeutung der Hautbank für die Versorgung des Brandverletzten. **[The importance of the skin bank in the care of the burned.]** *Krankenhausarzt*, Karlsruhe, 1974, Nov., vol. 47, no. 11, pp. 618-620.

Skin homografts play an important role in the treatment of burns. Direct transplants from suitable registered donors can be used within a few hours or after having been kept in a refrigerator at +4°C for up to six days. Skin can also be stored indefinitely after having been frozen in liquid nitrogen to —50°C within 50 minutes and then to —196°C. Such skin transplants are first sealed in a plastic container, which in turn is sealed in a nylon container; they are then stored in the freeze chamber of the nitrogen plant in perforated metal boxes.

DIAGNOSTIC X-RAY DEPARTMENT

See also Abstract Nos. 412, 413

436. GRIMES, C. B. **Cost effectiveness in diagnostic X-ray departments.** *Radiography*, London, 1974, Dec., vol. 40, no. 480, pp. 285-286.

In 1969 the South East Metropolitan Regional Hospital Board pioneered the

'financial evaluation team' to make detailed examinations of the use of financial resources in each hospital management committee in its region with a view to establishing yardsticks for making comparisons and adjusting revenue allocations. The studies were aimed at measuring not absolute need but comparative need. As far as X-ray departments were concerned the studies fell into six categories: (i) administration; (ii) professional and technical staffing; (iii) administrative and clinical staffing; (iv) film costs; (v) silver recovery; and (vi) stock levels of X-ray material. These six areas are described in the paper. In order to have a recognized standard to judge by, use was made of *Guide to good practices in hospital administration* [see *Hospital Abstracts*, Vol. 11, Abstract 532] and *Work measurement in radiodiagnostic departments* [see *Hospital Abstracts*, Vol. 12, Abstract 1175]. The studies described have provided some very useful information not hitherto available. They could serve as a basis for investigation into the organization of X-ray departments elsewhere.

437. EVENS, R. G. and others. **The application of computer simulation modeling to the radiology film library.** *Radiology*, Syracuse, 1974, Aug., vol. 112, no. 2, pp. 319-325.

This paper describes the application of a computer simulation model to the X-ray film storage and retrieval system at the Mallinckrodt Institute of Radiology, Washington University School of Medicine, St. Louis, Mo. There had been dissatisfaction with the system for some years, despite many revisions of the mechanical and manual operations. The system was analysed according to the following schedule: (i) define specifications for film library performance; (ii) collect data on traffic; (iii) make a model of the current system; (iv) validate the model; and (v) develop the proposed solution. The solution appeared to be a filing system allowing multiple simultaneous searches and the ability to produce a requisition and update the file in a single step. The solution was tested against a contrived traffic load of twice the maximum (almost four times the current average). It is concluded that computer simulation is a valid technique for systematic study of an X-ray film library and is also useful for many other complex administrative problems.

RADIOTHERAPY DEPARTMENT

See Abstract No. 413

REHABILITATION

See also Abstract No. 327

438. OWEN-SMITH, B. D. and LINDSAY, D. J. **The rehabilitation field unit—a feasibility study.** *Health and Social Service Journal*, London, 1975, Jan. 4, vol. 85, no. 4420, pp. 26-28.

In order to assess the usefulness of hospital based rehabilitation teams visiting patients in their homes to assist general practitioners, a pilot study involving 16 patients has been carried out. What are called rehabilitation field units (RFUs) looked at the medical, psychological, social and environmental factors affecting each case. Each RFU had three members: a rehabilitation specialist; an occupational therapist or a

physiotherapist; and a social worker, health visitor, technician or other professional worker in the field of rehabilitation. Help from the local authority social services department was encouraged. These home visits were found to be stimulating and revealed the full impact of the disability on daily living. The testing of such factors as stair-climbing ability, co-ordination, and balance as well as heart-lung function and the patients' motivation were particularly useful.

DEPARTMENTS FOR SPECIAL THERAPY

See Abstract Nos. 389, 392

INTENSIVE CARE UNITS

See also Abstract Nos. 390, 443

439. DEUTSCHE KRANKENHAUSGESELLSCHAFT. Richtlinien für die Organisation der Intensivmedizin in den Krankenhäusern: Empfehlung vom 9. September 1974. **[Guidelines for the organization of intensive medicine in the hospital: recommendation of 9 September 1974.]** *Krankenhaus*, Stuttgart, 1974, Nov., vol. 66, no. 11, pp. 457-460.

These recommended standards of the German Hospital Association for intensive care units distinguish between 'intensive observation' and 'intensive therapy'. According to the size of hospital these could be separate units for different specialties or a single unit for all patients. Length of stay can be calculated at four days for 'observation' and seven for 'therapy'. The optimal number of beds per unit is put at 12 with a minimum of six and a maximum of 16. For observation 25 sq.m. per bed is needed; for therapy 50 sq.m. Central units should adjoin the operating suite. Recommended staff patient ratios are as follows: doctors; observation 1:3, therapy 1:2; nurses; observation 1:1, therapy 2:1. There should be one cleaner for each 40 sq.m. of floor area. Minimum equipment requirements for the different types of unit are listed.

440. SISSOURAS, A. A. and MOORES, B. **Cost analysis of a system of intensive coronary care services (coronary and mobile units).** *Hospital and Health Services Review*, London, 1975, Jan., vol. 71, no. 1, pp. 12-16.

This analysis aims to provide insight into the cost implications of providing coronary care services. An actual system of coronary care, in operation at Salford, is considered. A change from traditional coronary care in the general wards to a system with more intensive features of treatment increased the total hospital cost per patient for the same throughput by no more than £60. In an integrated scheme of intensive coronary care which includes a mobile unit, more patients can be treated and the cost per case is lower and possibly reflects better use of resources.

SPECIAL HOSPITALS AND UNITS

OUT-PATIENT

See also Abstract No. 452

441. DIJKMAN, F. J. M. De polikliniek in ontwikkeling. **[Polyclinic development.]** *Ziekenhuis*, Utrecht, 1974, Nov. 20, vol. 4, no. 22, pp. 570-575.

It is desirable for a number of reasons that out-patient treatment should where possible replace in-patient treatment. The dividing line between the two is sometimes difficult to draw and different specialists will decide differently. The provision of beds in out-patient departments will facilitate their use by patients who would otherwise have to be admitted for certain diagnostic and treatment procedures. These beds are of two types: day beds, and 'ambulatorium' beds for patients able to look after themselves but needing to remain overnight. The two types of bed should be in separate units. Some hospitals already have 'ambulatoria' for in-patients but the need for them would be lessened if such facilities were provided on an out-patient basis. It would perhaps be preferable for the out-patient beds to be closely linked with the ward block in order to give maximum flexibility. If out-patient treatment is to increase a number of organizational measures are necessary. These include: access by general practitioners to diagnostic services; laboratory facilities; co-ordination of examination and treatment so that the patient does not have to attend more often than necessary; and adjustment of specialists' work so that procedures which necessitate a subsequent rest period are carried out early in the day.

442. ASHFORD, J. R. and HUNT, R. G. **The distribution of doctor-patient contacts in the National Health Service.** *Journal of the Royal Statistical Society, Series A (General)*, London, 1974, vol. 137, part 3, pp. 347-371; discussion pp. 371-383.

The confrontation between doctor and patient may be regarded as the basic unit of medical practice in any comprehensive health care system. This paper is concerned with the marginal and joint distributions of the numbers of doctor-patient contacts in the National Health Service. A simple but general model to represent the joint distribution of patient contacts is desired. A more specific class of models is also considered. A Poisson/Gamma/modified log distribution model is then developed and applied to empirical data concerning the joint distribution of general practice surgery attendances and home visits and hospital out-patient consultations arising from some 70,000 people in the City of Exeter over a period of one calendar year. With the exception of the very young and very old, the model provides a good fit to the data for males and, when contacts involving pregnancy are excluded, a generally satisfactory fit for females. The structure and general plausibility of the models are discussed and it is concluded that the basic assumptions are reasonable. Examples are given of the use of the models for predictive purposes as an aid to the planning of health care facilities.

CASUALTY AND ACCIDENT

See also Abstract No. 362

443. GIROUD, M. and others. **The emergency care system and intensive care unit of the Desgenettes Armed Forces Teaching Hospital at Lyon.** *Medical Progress through Technology*, Berlin, 1974, vol. 3, no. 1, pp. 1-7.

Organization of emergency care services varies throughout France in spite of government attempts to unify the different approaches to improve efficiency. There are

three types of structure: (i) specialized services in university medical centres; (ii) general resuscitation centres in non-university hospitals; and (iii) special (pre-hospital) emergency services. This paper describes the system at Lyon. A special respiratory assistance unit had been opened at the Hôpital d'Instruction des Armées Desgenettes (HIAD) in 1961 to deal with a poliomyelitis epidemic which largely affected the army. It was later changed into a general resuscitation unit called Service d'Urgence et de Soins Intensifs (SUSI). The unit is organized to provide hospital care, consultation, transportation and education as well as medical care for staff and students at HIAD and the Lyon fire department. An account of these services is given in the paper. The resources and functions of the hospital emergency care service as regards facilities, staff and equipment are described and there are some details of the patients treated. The transportation task covers in-hospital transport, emergency air and road transport and co-operation with rescue organizations. The educational activities include teaching and training officers studying in the army medical corps school (of which HIAD is the teaching hospital), students at the University of Lyon, members of the fire department, military nurses and rescue workers from the police and other organizations. Seventeen references are listed.

444. SCHEIDLER, K. von. Stand und Aufgabenstellung der Betreuung medizinischer Notfälle in der DDR. **[Current status and duties of emergency medical services in the German Democratic Republic.]** *Zeitschrift für die gesamte Hygiene und ihre Grenzgebiete*, Berlin, 1974, Oct., vol. 20, no. 10, pp. 723-730.

The successive stages of emergency medicine are as follows: first aid by laymen; first aid at the site of the incident by local doctor; specialist medical care at the site; special care during transport; emergency admission to hospital; and emergency treatment including intensive care. Emergency medical services should provide mobile teams, including doctors, ready at all times to go to incidents both to give immediate treatment and to ensure that patients are transported with a minimum of risk. It is not considered practical for such mobile teams to specialize in different types of emergency: very often the information reaching the centre is not sufficiently clear and also such specialist teams would be under-used. It is important that certain hospitals, which have the necessary specialist staff and equipment, should be selected to receive emergency cases: it is better for patients to have a longer journey to get proper treatment than to have a short journey but inadequate care.

445. ZNAIDER, R. and JOHANSEN, B. **Falck, the Danish rescue and emergency organization.** *Medical Progress through Technology*, Berlin, 1974, vol. 3, no. 1, pp. 9-14.

Falck is a Danish rescue and fire organization, established in 1906 by Sophus Falck, a smith. It undertakes tasks which in other countries are the responsibility of the Red Cross, fire and ambulance departments and private car repair shops. It was originally limited to Copenhagen but after 1918 its services spread to other parts of Denmark. By 1940 half the fire authorities in the country had handed over their responsibilities to Falck for a per capita payment. The provision of ambulance services was also handed over by municipalities and hospitals. A network of emergency service stations, not usually more than 16 miles apart, means that the whole country is adequately served. Falck has 3,800 men permanently connected with its 132 stations

and there are also 1,200 part-time firemen. About 2.5 million calls for assistance are answered each year. These include 140,000 emergency ambulance missions, and transport of 400,000 stretcher patients and 800,000 patients able to sit. More than 800,000 families and corporations subscribe to Falck services. The staff are highly trained to provide assistance in many situations. Seven doctors are assigned to the ambulance service. There are 500 ambulances and about 350 cars for the transport of sitting patients. All ambulances are equipped with oxygen apparatus, automatic and portable suction apparatus, etc., and tests have been made with electrocardiograph and defibrillation apparatus for treating patients with heart attacks. Four photographs of ambulances and one of a Falck station are included.

446. AHNEFELD, F. W. and GORGASS, B. Aufgaben und Möglichkeiten des Notarztwagens. **[Uses and possibilities of the emergency ambulance.]** *Wiener medizinische Wochenschrift*, Wien, 1974, Dec. 21, vol. 124, no. 51/52, pp. 752-758.

The primary aim of modern emergency services should be to get the doctor to the patient, rather than the patient to the doctor, as quickly as possible. Unless urgent life-saving treatment is carried out at the site of the emergency and the patient gets expert care during transport all the resources of a modern hospital may be in vain. What is needed is an efficient system reporting by telephone or radio to a central point from which an ambulance manned by a specially trained doctor and attendants can go immediately to the site of the emergency. The doctor should preferably be an experienced anaesthetist and the attendants should have had two years' special training. A report is presented on the first two years' work of the pilot emergency centre scheme at Ulm, during which period their ambulances went to 3,000 emergencies. Shifts of one doctor (anaesthetist) and two attendants provide a 24-hour service and on average the ambulance was ready to leave within 1.4 minutes of receipt of a call, the site was reached in 7.0 minutes and 12 minutes was spent at the site. Accidents accounted for 40 to 50 per cent of emergencies and acute illness for 50 to 60 per cent. The policy was to send an ambulance 'if a patient's vital functions were threatened, were feared to be threatened, or if this threat could not be definitely excluded'. In 50 per cent of cases the procedure was found to be absolutely necessary, in 30 per cent the presence of a doctor was found not to be absolutely essential, and in 20 per cent it was definitely not necessary. The centre also has a helicopter which is used for emergencies arising between 10 km. and 15 km. away.

CHILDREN

See also Abstract Nos. 323, 328, 393

447. BRIMBLECOMBE, F. S. W. **Exeter project for handicapped children.** *British Medical Journal*, London, 1974, Dec. 21, vol. iv, pp. 706-709.

The extent of supporting services for home care is one of the most important factors affecting the decision to commit a severely mentally or physically handicapped child to permanent hospital care. Honeylands Hospital, Exeter, previously a tuberculosis sanatorium, was transferred to the paediatric department of the Royal Devon and Exeter Hospital in 1967. Since then it has been developed as a family support unit for

mentally, physically and socially handicapped children who are living at home. The Devon and Exeter Spastics Society has built its day centre and a special school adjacent to the hospital, and there has been co-operation between both institutions. The unit has attempted to meet the needs of various patients: (i) infants who need further care for a few weeks before going home, due to bad home conditions or illness and for whom subsequent care is also arranged; (ii) handicapped infants who require day care, particularly when parents cannot cope alone; parents also receive advice on their child's care, and can leave the child in the unit for an evening or weekend if required; (iii) pre-school nursery care is provided, usually for socially handicapped children; and (iv) delicate children can attend the small day school at the unit, and other handicapped school children can use the unit in the holidays, in addition to other holiday project centres sponsored by the Red Cross and other local groups. As a result of these activities, only two children under eleven from the Exeter area have been committed to permanent care in a hospital for the mentally handicapped during the past seven years.

448. CALWELL, H. G. **The life and times of a voluntary hospital: the history of the Royal Belfast Hospital for Sick Children 1873 to 1948.** Belfast, Brough, Cox and Dunn, 1973, xiii, 138pp. £1.65.

The Royal Belfast Hospital for Sick Children was opened in 1873 with 18 beds. This study deals with the first 75 years of its life, during which it was a voluntary and independent institution. Numerous photographs are included.

449. QUIBELL, E. P. and others. **A symposium from Chailey Heritage (Craft School and Hospital), Sussex, on the treatment, rehabilitation, and education of the handicapped child.** *Nursing Mirror*, London, 1975, Jan. 9, vol. 140, no. 2, pp. 45-70.

The eight papers in the symposium by medical, nursing and other staff at Chailey Heritage are: (i) introduction and assessment; (ii) surgical problems in handicapped children; (iii) nursing care at Chailey; (iv) nursing care in the admission/assessment unit; (v) physical treatment of the handicapped child; (vi) rehabilitation engineering; (vii) education at Chailey; and (viii) Reed Cottage—parents' accommodation.

GERIATRICS AND LONG-STAY

See also Abstract Nos. 329-332

450. PABLO, R. Y. **The chronically ill: the demographic and clinical correlates of their outcome of hospitalization.** *Canadian Journal of Public Health*, Ottawa, 1974, Nov./Dec., vol. 65, no. 6, pp. 427-435.

This paper reports a survey of 287 patients at Parkwood Hospital, London, Ont., an extended care and rehabilitation centre providing a spectrum of services for a heterogenous population of patients with chronic disease. Demographic and clinical information, length of stay and condition on discharge were obtained from medical records and coded on cards to permit computer analysis. The results revealed that length of stay was unrelated and could not be predicted on the basis of any of the demographic and clinical variables, with the exception of the age of the patient.

On the other hand, a number of the variables such as type of room, availability of relatives, number of diagnoses, patient's care requirements, prognosis of the primary condition, and the assessment of rehabilitation potential for the primary condition were significantly related and could serve as predictors of the patients' condition upon discharge. The implications of these results for the treatment and management of the chronically ill are discussed.

451. WILKES, E. **Terminal care and the special nursing unit.** *Nursing Times*, London, 1975, Jan. 9, vol. 71, no. 2, pp. 57-59.

Terminal care is both demanding and time-consuming since most patients need a great deal of emotional support in addition to nursing care. Special terminal care units have therefore become an accepted element of medical care. They combine clinical care and symptom control with extensive rehabilitation and occupational therapy programmes. Many units are able to rely on a considerable amount of voluntary help and support which contributes towards the involvement of the community in the work of the unit. Units also try to involve the patients' families as much as possible by encouraging them to play a significant part in caring for their relatives. The resulting diversity of activity leads to a more flexible, less hierarchical approach than that found in many large hospitals.

EAR, NOSE AND THROAT

See Abstract Nos. 333, 424

CARDIOLOGY

See Abstract No. 440

UROLOGY

See Abstract No. 392

SURGERY

452. LORD, P. **Day case surgery.** *Proceedings of the Royal Society of Medicine*, London, 1974, Oct., vol. 67, no. 10, pp. 998-1000.

This paper is based on seven years' experience of the use of the day case ward at Wycombe General Hospital and attempts to point out the benefit that day surgery can give to the service as a whole, to the patient, and in particular to the surgeon. Of a total of 2,500 surgical department admissions in 1973, 1,000 were treated as day cases; another 1,000 patients were admitted to the day ward by other disciplines, orthopaedic surgery and ENT, with a few medical cases. Day surgery may provide a financial saving, but it should not be thought of as cheap; the aim should be to provide the best service. The facilities provided need to be generous. Surgical techniques do not have to be modified for day surgery. Most male patients were relieved to hear that they were going to be treated as day patients, but over half the women said they would only accept it because they were not prepared to leave their children overnight. Once

the organization runs smoothly, day surgery saves the surgeon a lot of minor administration and makes it easier for him to cope with the work load.

MATERNITY

See also Abstract Nos. 334, 394

453. AMERICAN ACADEMY OF PEDIATRICS. COMMITTEE ON ENVIRONMENTAL HAZARDS. **Noise pollution: neonatal aspects.** *Pediatrics*, Evanston, Ill., 1974, Oct., vol. 54, no. 4, pp. 476-479.

The deafening effect of high intensity noise is well known; the effects of hospital noise and its interaction with ototoxic drugs are less well known. The subject is of particular importance to paediatricians, because infants in incubators are exposed to substantial noise from the motor, airflow, respirators, slamming of incubator doors and the baby's own crying. This paper reviews the problem and suggests that it would be prudent for: (i) manufacturers of incubators to reduce the noise from motors as much as possible, preferably below 58dB(A); (ii) physicians to limit the use of aminoglycosidic antibiotics and other potential ototoxic drugs insofar as is consistent with good medical practice; and (iii) hospital staff to eliminate unnecessary noise. To establish criteria for protecting infants from the effect of noise, additional information is needed on: (i) the relation between disorders of hearing, speech or language and a past history of exposure to incubator noise and/or ototoxic drugs; and (ii) the relation of such exposures to subsequent hearing or speech impairment. Physicians should be alert for unnecessary noise in nurseries and take appropriate action for abatement.

454. LLOYD, G. **The general practitioner and changes in obstetric practice.** *British Medical Journal*, London, 1975, Jan. 11, vol. i, pp. 79-82.

This paper examines the various factors which have led to a changing role for the general practitioner (GP) in obstetrics over the past decade. Evidence is drawn from statistics on birthrate, delivery in hospital, GP hospital obstetric beds, payment for maternity services, and doctors admitted to the obstetric list in England and Wales. Fewer GPs are obtaining a postgraduate diploma in obstetrics, and the future more stringent criteria for GPs wishing to undertake it will probably restrict the number who plan to practise in the field. Within a decade few GPs will attend during normal labour or delivery, which can and should be conducted by midwives. GPs should have a new role in obstetrics, being responsible for some antenatal supervision and post-natal care, including post-natal examinations, taking a cervical smear and giving advice on birth control.

PSYCHIATRY

See also Abstract Nos. 332, 335, 336, 343, 345, 418, 447

455. MAY, P. R. A. and COHEN, J. **The mental health engineer: an agent for institutional change.** *Hospital & Community Psychiatry*, Washington, 1974, Nov., vol. 25, no. 11, pp. 735-739.

Mental health care systems are less effective than they might be because of the gap

between research and application, which grows wider as knowledge becomes more compartmentalized. A new class of professionals is proposed, to be defined as mental health engineers. These professionals would act as intermediaries and as agents of change who could translate current research knowledge into programmes for activity. Their role would be comparable with that of the industrial engineer: that of constructive critic and active, responsible participant in change. Mental health engineers would be able for example to help decrease hospital admissions, reduce staff alienation or change a ward treatment programme.

456. PANTALL, J. **Training project for hospitals for the mentally handicapped 1970-1974.** Manchester, Manchester Business School, 1974, [ii], 17pp.

In 1970 regional hospital boards were asked to consider appointing a special officer, the training project officer, to facilitate change in hospitals for the mentally handicapped. This survey and commentary on the project has been prepared following visits to regions and meetings of a small working party. It covers: functions, profile and location of the training project officer; models of the ideal organization; access to outside sources of help and information; education and training; information; organizational change; problem solving and working groups; development of regional strategies for the care of the mentally handicapped; and money and change. A number of recommendations for future action are made.

457. HUNTER, P. **Community psychiatric nursing in Britain: an historical review.** *International Journal of Nursing Studies*, Oxford, 1974, Dec., vol. 11, no. 4, pp. 223-233.

This paper reviews the beginning of community psychiatric nursing in Great Britain and describes its main features. It has developed in two stages: the after-care or continuing care stage; and the second stage incorporating more specialized treatment methods such as psychotherapy and behavioural therapy. These developments have been helped by the reorganization of the National Health Service and the growing co-operation between professional groups, in particular between social workers and nurses in the educational field, as well as co-operation on behalf of patients and their families. Training has begun for community psychiatric nurses, and the first course recognized by the Joint Board of Clinical Nursing Studies was due to start in 1974.

458. BURN, G. D. **Breaking the ice.** *New Society*, London, 1974, Dec. 19, vol. 30, no. 637, pp. 756-757.

Innumerable barriers, some real and some imagined, have been erected between hospitals for the mentally handicapped and the public; these have not encouraged people to do voluntary work in such hospitals. A new initiative to break down the barriers was tried in four hospitals last summer and proved successful. It was based on the one-to-one day, which originated in the United States, and aims to create individual and personal contact between a volunteer and a patient. The participating hospitals were Ida Darwin, Cambridge, St. Margaret's, Birmingham, Prudhoe, Newcastle, and Harperbury, Radlett. The aim was to allow the patients to participate in games and entertainments whilst the volunteers could, at the same time, catch a glimpse of hospital life through the eyes of their partners, and also come to terms with

mental handicaps. In a period of two months, 1,200 volunteers took part, the majority under 25 years of age. Analysis of the volunteers is given in a table. The benefits derived from the scheme are outlined and future plans for it are discussed.

459. BURKITT, P. A. **The concept of a therapeutic community.** *Nursing Times*, London, 1975, Jan, 9, vol. 71, no. 2, pp. 75-78.

The therapeutic community can be defined as a small face-to-face intensive treatment unit concentrating on continual analysis of events, community meetings, role examination and blurring and flattening of authority pyramids. The aim is to improve capacities and incentives of patients for constructive interpersonal relationships in ordinary social life. Therapy is directed at the 'non-sick' part of the person to develop the latent skills and potential of those seeking help. After a brief history of the concept and its development, the author examines in detail one such community, the Henderson Hospital in Sutton, and reviews the application of the concept in other settings such as prisons, hostels and community psychiatric services.

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